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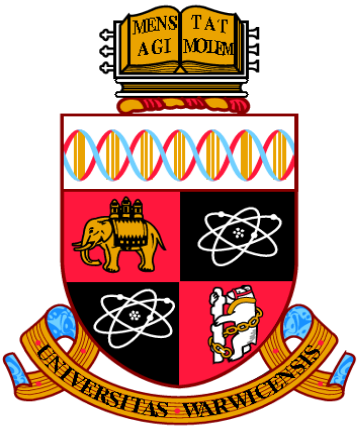

Kleptocracy, Democratization and International Interventions

by

Xuezheng Chen

Thesis

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Contents

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Declaration

I declare that this thesis is my own work, and any material contained in this thesis has not been submitted for a degree to any other university.

Xuezheng Chen
September 2012

Summary

This thesis consists of three self-contained chapters. The first chapter is titled 'A Theory of Divide-and-Rule: Kleptocracy and Its Breakdown'. The second chapter is tilted 'Kleptocracy and the Benevolent Opposition Organizations'. The last chapter is titled 'Democratization, Revolution and International Interventions'.

In the first chapter, I develop a theory of divide-and-rule, explaining how kleptocracies can be sustained in equilibrium by implementing a strategy of divide-and-rule. This chapter shows how this strategy is successfully implemented by a kleptocratic ruler, who is able to play one group of citizens against another. I explore the extent to which this is robust to a society with any number of citizen groups. When there are large numbers of citizen groups, a small number of them may benefit from the discriminatory redistribution policies implemented by the kleptocrat, while the vast majority will become the victims of the kleptocracy. Consequently, sharp economic and political inequality between the citizen groups may arise because of the discriminatory policies resulting from the divide-and-rule strategy. Furthermore, this chapter examines two cases in which this strategy may fail and the kleptocracy will break down. Several results are obtained in this chapter, and they are applied to some real world cases.

In the second chapter, I introduce a theoretical framework, based on the model developed in the first chapter, examining how the benevolent opposition organizations, such as trade unions and religious organizations, may constrain the strategy of divide-and-rule. This chapter shows that by punishing those citizen groups supporting the kleptocratic rulers, they may help strengthen the cooperation between them, thus improving the welfare of the civilians and even removing the kleptocratic ruler. However, compared to punishing the citizen group supporting the ruler, the benevolent opposition organizations could more effectively constrain the kleptocracy through rewarding the citizen group who challenges the ruler or supports another citizen group in challenging the ruler.

In the last chapter, I develop a model for military interventions and economic sanctions respectively, examining their impacts on the process of democratization. In a dictatorial society or a weakly institutionalized society, the ruler and the opposition vie for social surplus, while the international community decide whether or not to carry out military interventions, or to impose economic sanctions in this society. The theoretical frameworks developed in this chapter formalize the interaction between the international community, the opposition and the ruler. This chapter shows that both military interventions and economic sanctions may help promote the democratization process in a state, while they may also induce the opposition to resort to a revolution to overthrow the regime, thus increasing the likelihood of a civil war and raising the uncertainty in the democratization process. Several analytical results in this chapter may shed light on the questions about the efficacy and impacts of international interventions on the democratization process in a state. Furthermore, this chapter introduces the military interventions in 2011 Libya and the economic sanctions against Burma as case studies.

General Introduction

According to Huntington (1992), there have been three waves of democratization since the early nineteenth century. The first wave starts with the suffrage extension in the United Sates in the early nineteenth century and lasts until l922, which brings out 29 democracies in world. This wave of democratization ebbs with the rise of Benito Mussolini in Italy in 1922, leading to a sharp decrease in the number of democracies to merely 12 in 1942. The second wave follows the triumph of the Allies in World War II in 1945 and continues until 1962, raising the number of democracies to 36. Nonetheless, it drops down to 30 during the ebbing of the second wave between 1962 and the middle 1970s. The beginning of the third wave is marked by the Carnation Revolution in Portugal in 1974, which brings out democratic transitions in more than 60 countries by the end of 1990s.

However, as we can see from Figure A1 (in Appendix A.1), there is no significant change in the number of countries classified as 'free' or 'partially free' since 2000. What is more, according to the report by Freedom House in 2011,[1] the overall global freedom declines in five consecutive years between 2005 and 2010, which 'represents the longest continuous period of decline in the nearly 40-year history of the survey'. It has been around two centuries since the first wave of democratization, however 47 countries are still 'not free', while 60 are 'partly free', and about 55 percent of the world population live in these 107 countries (see Figure A2 in Appendix A.2). In 2011 and 2012, there are pro-democracy political changes in a few countries, such as Egypt, Tunisia and Libya, while at the same time, some authoritarian regimes, such as China, Iran, Russia and Venezuela, continuously step up repressive measures against the democratic oppositions.[2] Nowadays, democracy promotion and consolidation remain one of the major challenges for the world.

This thesis mainly explores the following four questions related to democratiza-

[1] 'Freedom in the World 2011', Freedom House.
[2] Ibid.

tion. Firstly, how does the strategy of divide-and-rule help sustain kleptocracies and other highly corrupted authoritarian regimes? Secondly, what factors and measures could serve to constrain the divide-and-rule strategy and promote democratization? Thirdly, how may the benevolent opposition groups, like trade unions and religious institutions, help constrain the divide-and-rule strategy? Lastly, what are the impacts of military interventions and economic sanctions on the democratization process in a society?

Kleptocracies and other highly corrupted authoritarian regimes usually result in the implementation of inefficient and even disastrous economic and political polices, leading to severe violation of human rights and the underdevelopment in these societies (see Sandbrook 1985, Turner and Young 1985 and Herbst 2000). However after exhausting all the sources of legitimacy, many of these regimes still manage to survive over long periods, examples including Moi's Rule in Kenya (1978–2002), Gaddafi's in Libya (1969-2011) and Mugabe's in Zimbabwe (1980-present).

The first chapter in this thesis develops a theory of divide-and-rule, explaining how kleptocracies can be sustained in equilibrium by implementing a strategy of divide-and-rule. And this chapter examines different environments in which this strategy could be successfully implemented, and explores the extent to which this is robust to a society with any number of citizen groups. Although the strategy of divide-and-rule is powerful, it is not invincible. When there are large numbers of citizen groups, a small number of them may benefit from the discriminatory redistribution policies implemented by the kleptocrats, while the vast majority will become the victims of the kleptocracy. Therefore, sharp economic and political inequality between the citizen groups may arise because of the discriminatory policies resulting from the divide-and-rule strategy. What is more, this chapter introduces two extended models to illustrate how the strategy of divide-and-rule may fail and the kleptocracy would break down.

In many European countries (including Poland, Czech Republic, Slovakia and Hungary) and a number of African countries (such as Niger, South Africa, Zambia, and Zimbabwe), trade unions were crucial in the opposition to the dictatorships and the democratic transitions between 1970s and 1990s (see Maarten 2008, Cirtautas 1997 and Kraus 2007). For instance, Solidarity spearheaded the peaceful democratization in Poland in the 1980s (Maarten 2008), and MSZOSZ and LIGA promoted the negotiated transition in Hungary (Bozóki 2002). What is more, according to Huntington (1992), Catholic Church's emphasis on individual rights and opposition to authoritarian rule, was one of the major driving forces leading to the third wave of democratization. Gifford (1995) points out that in several African countries, the Christian Church has played a critical role in the democratization movements since the late 1980s.

The second chapter introduces a theoretical framework, examining how those benevolent opposition groups, like trade union and religious institutions may constrain the strategy of divide-and-rule. This chapter shows that by punishing those citizen groups supporting the kleptocrats, these opposition groups may help strengthen the cooperation between them, thus improving the welfare of the civilians and even removing the kleptocrats. However, compared to punishing the citizen supporting the ruler, the benevolent opposition organizations could more effectively constrain the kleptocracy through rewarding the citizen group who challenges the ruler or supports another citizen group in challenging the ruler,

The first two chapters in this thesis focus on the interactions between the internal actors in a dictatorial society, examining how these interactions may result in the survival of the dictatorial regime or lead to a democracy. While following the end of World War II, democracy promotion has been put in the agenda of the international community. Especially, since the end of Cold War, the traditional norms of state sovereignty have been further challenged by the norms of human rights, leading

to legitimizing international interventions, such as economic sanctions and military interventions, by the UN or the great powers for humanitarian purposes in conflicts within a nation (Harris 1991, Boutros-Ghali 1992 and Conteh-Morgan 2001).

As a result, international interventions have been playing a more and more important role in the democratization process in a society since the end of World War II. Examples include the military interventions in Yugoslavia in early 1990s (see Mayall 1996), Liberia from 1991 to 1996 (see Huband 1998) and Libya in 2011, and economic sanctions against Rhodesia between 1965 and 1979, Malawi between 1992 and 1993 (see Posner 1995), Paraguay in 1996 (see Hufbauer, Schott, Elliott and Oegg 2007) and Burma between 1988 and 2012. However, as we can see, disregard whether they are carried out in the name of democracy promotion, do not necessarily lead to the transition to a democracy or policy changes in favor of democracy. What is more, besides the grand reasons justifying interventions (such as democracy promotion and humanitarian purposes), the sender countries of international interventions have their own utility functions, determining whether to carry out the interventions and the strength of interventions.

In order to examine the impacts of international interventions on democratization, the last chapter introduces the international community as an external actor in the process of democratization in a society, and develops a theoretical model for military interventions and economic sanctions respectively, formalizing the interaction between the international community, the opposition and the authoritarian ruler. To some extend, the process of democratization could be interpreted as the redistribution of economic resources and political power. In a dictatorial society or a weakly institutionalized society, the ruler and the opposition vie for social surplus, while the international community decides whether or not to carry out military interventions in the case of a civil war, or whether or not to resort to economic sanctions to promote the democratization process in this society.

This chapter shows that both military interventions and economic sanctions may help promote peaceful democratization in an authoritarian state, while they may also induce the opposition to resort to a revolution to overthrow the regime, thus increasing the likelihood of a civil war and raising the uncertainties in the democratization process. Several analytical results in this paper may shed light on the questions about the efficacy and impacts of international interventions on the democratization process in a state. And this paper introduces the military interventions in 2011 Libyan revolution and the economic sanctions against Burma between 1988 and 2012 as case studies.

The first chapter is related to the literature on the political economy of a weakly institutionalized society, such as Amegashie (2008), La Ferrara and Bates (2001) and Jackson and Rosberg (1982), and mainly contributes to literature study the survival of the kleptocracy and other authoritarian regimes, examples including Acemoglu, Robinson and Verdier (2004), Gandhi and Przeworski (2007) and Miquel (2006). The second chapter mainly contributes to the literature studying the role of trade unions in the process of democratization, such as Maarten (2008), Cirtautas (1997), Bozóki (2002) and Kraus (2007), and the literature examining the role of religious institutions in the process of democratization, examples including Huntington (1992) and Gifford (1995). The last chapter mainly contributes to the literature examining the impacts of military interventions on democratization, such as Mark Peceny (1999a and 1999b), Hermann and Kegley (1996) and Dimitrov (2005), and the literature studying the efficacy of economics sanctions on democracy promotion, examples including Hufbauer, Schott, Elliott and Oegg (2007), Rogers (1996) and Elliott (1992).

1 Chapter I: A Theory of Divide-and-Rule: Kleptocracy and Its Breakdown

Abstract

How do non-democratic regimes, especially kleptocracies, manage to sustain their rule over long periods? In this paper, I develop a theory of divide-and-rule, explaining how kleptocracies can be sustained in equilibrium by implementing a strategy of divide-and-rule. This paper shows how this strategy is successfully implemented by a kleptocrat, who is able to play one group of citizens against another. I explore the extent to which this is robust to a society with any number of citizen groups. When there are large numbers of citizen groups, a small number of them may benefit from the discriminatory redistribution policies implemented by the kleptocrat, while the vast majority will become the victims of the kleptocracy. Consequently, sharp economic and political inequality between the citizen groups may arise because of the discriminatory policies resulting from the divide-and-rule strategy. Furthermore, this paper examines two cases in which this strategy may fail and the kleptocracy will break down. Several results are obtained in this paper, and they are applied in the illustration of some real world cases.

1.1 Introduction

It has been around two centuries since the first wave of democratization in the early nineteenth century, however there are still a large number of non-democratic regimes around the world nowadays. According to the annual survey by Freedom House in 2011, 47 countries are still 'not free', while 60 are 'partly free', and about 55 percent of the world population live in these 107 countries[3]. Although the term 'not free' or 'partly free' cannot be translated directly to 'a non-democratic regime',

[3]Source: Freedom House, Maps of Freedom 2011, in Appendix A.2

it is safe to say that a majority of these countries are under the rule of non-democratic regimes. Many of these regimes have been sustained over long periods, despite their being highly corrupted and incompetent in providing public services, abusing the economic, social and political rights of the citizens.

Kleptocracy is one of the most notorious types of non-democratic regimes. The rulers in these regimes take advantage of their control over the state apparatuses and resources to extend their various personal economic and political interests, leading to severe violation of human rights and the underdevelopment in these societies (see Sandbrook 1985, Turner and Young 1985 and Herbst 2000). However after exhausting all the sources of legitimacy,[4] many of these regimes still manage to survive over long periods, examples including Moi's Rule in Kenya (1978–2002), Gaddafi's in Libya (1969-2011) and Mugabe's in Zimbabwe (1980-present). How do these regimes, especially those kleptocracies, manage to survive over long periods?

Brumberg (2003) states that the leaders of many liberalized autocracies in Arab countries, such as Morocco, Egypt, Jordan, and Yemen, are well placed by pursuing a divide-and-rule strategy among different social groups, through which they blur the line between friend and foe, making it possible to constantly build different alliances with leaders inside and outside the regime. In many communist countries, in order to strengthen the communist party's control over the state, a significant proportion of the population were classified as the enemies of the people,[5] thus being deprived of their livelihood, even imprisoned, tortured and killed.[6]

Acemoglu, Robinson and Verdier (2004) (henceforth ARV) state that the kleptocrats use many tools to maintain power, while divide-and-rule is a key strategy for

[4]For more discussions about legitimacy, please refer to Weber (1978), Alagappa (1995), Lipset (1959) and Dogan (2003).

[5]The classification is simply based on people's social origin or profession before the communist revolution. For example, those who are rich, owner of a large farm, merchants, worked in the previous regime, hired labour, etc.

[6]For in-depth stories and discussions, please refer to Gao (1987) and Courtois, Werth, Bartosek, Panne, Margolin and Paczkowski (1999)

sustaining their rule, such as Trujillo's rule in Dominica and Mobutu's in Congo[7] (see Leslie 1987 and Turner and Young 1985). ARV construct a model of personal rule with two producer groups and one kleptocrat, investigating how a divide-and-rule strategy supports kleptocracies and developing some interesting comparative static results on the likelihood of kleptocratic regimes and policies. The weakness of institutions in these kleptocratic societies enables the kleptocrats to defuse the cooperation intended to remove them from power, by imposing punitive rates of taxation on any social group proposing such a move and redistributing the benefits to those who are proposed. The authors point out that by implementing such a divide-and-rule strategy, no one challenges the ruler and all social groups are exploited along the equilibrium path.

One key feature of the model in ARV is that after the ruler's power is challenged, the ruler is restricted to impose a tax policy that punishes the citizen group initiating the challenge and intends to buy off another citizen group. This implies that ARV introduce an assumption in their model that the ruler is committed to punish whichever citizen group who initiates the challenge, and this commitment is credible to both citizen groups. However, we must note that it is not necessarily subgame optimal for the ruler to punish the citizen groups initiating the challenge. Given that a citizen group has initiated the challenge, it may be to the best interest of the ruler to buy off this citizen group, instead of punishing him. This will be illustrated in details in Section 1.3.

With the commitment assumption, the model in ARV may be applicable to a kleptocracy, in which the ruler has created a political and social environment in which they can punish any individual or social group without endangering his rule, and he is able to make such a commitment that is credible all the citizen groups or individuals. Examples of these rulers include Mobutu in Congo and Trujillo in Dominica (see

[7]In this paper, 'Congo' only refers to Democratic Republic of the Congo (Zaire), and should be distinguished from Republic of the Congo.

Turits 2003). However, some kleptocrats may not sustain their power without relying on the support of specific citizen groups, and they are not able to make a credible commitment to all the citizen groups that whichever challenges his power will always be punished. Examples of these rulers include Moi in Kenya (see Nowrojee and Manby 1993) and Saddam Hussein in Iraq (see Metz 1988 and Tripp 2010). How the implementation of divide-and-rule strategy will be affected if the kleptocrats are not able to make such a commitment credible to all the citizen groups?

Inspired by the observation of real world cases and the research in ARV, this paper develops a theory of divide-and-rule, explaining how kleptocracies can be sustained in equilibrium by implementing a strategy of divide-and-rule in various environments. This paper shows how this strategy is successfully implemented by a kleptocratic ruler, who is able to play one group of citizens against another. As pointed out in the above paragraphs, in order to understand the divide-and-rule strategy, it is important to distinguish two different types of kleptocratic rulers: Strong Rulers and Weak Rulers. In this paper, strong rulers refer to those who are able to make a credible commitment explicitly or implicitly to all the citizen groups that whichever challenges his power will always be punished; while weak rulers refer to those who are not able to make such a commitment.

Therefore, the models of divide-and-rule in this paper are classified into two strands: the models of divide-and-rule by strong rulers and the models of divide-and-rule by weak rulers. The basic model of the former strand shares one common feature to the one in ARV, in which any social group who challenges the ruler will always be punished. The analytical results derived in the basic frameworks of these two strands of models, show that when the citizen groups are relatively impatient and heterogeneous, strong rulers may extract more tax from the citizen groups along the equilibrium path, compared to weak rulers. Because the former enjoy more flexibility in setting redistribution schemes that can sustain their power; while the latter have to

implement a policy that may enable them to ally with one of the citizen groups. The results also indicate that if the collapse of a kleptocracy will be followed by a state of anarchy,[8] the citizen group with stronger capacity of fighting is likely to suffer greater loss under a kleptocracy, because the rulers can extract more surplus from a relative weaker citizen group, thus more willing to ally with them and discriminate against the stronger group in the redistribution.

What is more, this paper generalizes the model of divide-and-rule to a society with any number of citizen groups, and examines the impacts of the increase in the number of citizen groups on the implementation of this strategy. The analytical results show that the strategy of divide-and-rule could also be successfully implemented by the ruler to sustain the kleptocracy in a society with any number of citizen groups. The increase in the number of citizen groups, or the fragmentation in a society, can increase the survivability of a kleptocracy. The ruler will impose the maximum tax on a proportion of the citizen groups, and among the other groups, the ruler will ally with a number of them by imposing zero tax or providing transfer to them, so as to extract as much tax as possible from each of the rest citizen groups. Hence, a numbers of citizen groups may benefit from the divide-and-rule strategy, while the vast majority will be marginalized in the redistribution of political and economic interests. And the citizen groups with high endowment are more likely to be marginalized. Consequently, sharp economic and political inequality between different citizens or citizen groups may arise, due to the discriminatory redistribution policies imposed by the kleptocratic regime.

Furthermore, two cases are introduced to show how this strategy may fail and the kleptocracy may break down. In the first case, I assume that the citizen groups believe that they would receive some bonus from removing the kleptocratic ruler and introducing an alternative regime. In the second case, I assume that the utility function of

[8]In this paper, it is assumed that in the state of anarchy, a fight for the ruling power will break out between the citizen groups, and the winning group will seize all the resources from the other groups.

a citizen group does not only take into account its own payoff, but also that of another group. The analytical results show that if the citizen groups expect that they would receive some bonus from removing the ruler and introducing an alternative regime, this may help constrain the kleptocratic policy and even help bring down the ruler. What is more, if the citizen groups are closely connected to each other and mutually care about each other's interests, this may serve to improve the payoff for each of them, and even remove the ruler from power. Nonetheless, if the citizen groups are hostile to each other, this will enable the ruler to extract more resources from each of them.

Miquel (2006) develops a model in which the presence of ethnic identities and the absence of institutionalized succession processes enable a kleptocratic ruler to gain the support from a sizable share of the population, despite large welfare reduction for all the population. The ruler is able to gain the support from his ethnic group and sustain his rule, by exploiting their fear of falling under an equally inefficient and venal ruler that favors another ethnic group. In his paper, the ruler is labelled with certain ethnic identity, and he has to secure the support from his ethnic group, in order to sustain his power. While my approach abstracts from the ethnic identity problem, the ruler can stay in power as long as he can prevent the cooperation between different citizen groups, thus unveiling a different mechanism of sustaining a kleptocratic regime.

The theoretical models developed by ARV and Miquel (2006) is applicable to a society with two major citizen groups, while as we can see, there are usually more than two major citizen groups in a society. For example, there are four major tribes (Mongo, Luba, Kongo and the Mangbetu-Azande) in Congo and five (Kikuyu, Luhya, Luo, Kalenjin and Kamba) in Kenya. This paper generalizes the model of divide-and-rule to a society with any number of citizen groups, which solves the above problem. What is more, both ARV and Miquel (2006) suggest that there would be a welfare

reduction for all citizen groups or all the population under a kleptocracy. While this paper shows that this conclusion is generally not valid when there are more than two citizens groups. By generalizing the ruled citizen groups from two to any number, this paper shows the discriminatory redistribution policies are more likely to prevail in a society with many citizen groups. When there are more than two citizen groups, given the discriminatory redistribution policies, the majority of the citizen groups will suffer from the kleptocracy, however a small number of the citizen groups may benefit from it.

This paper is related to the literature on the political economy of a weakly institutionalized society, such as Amegashie (2008), La Ferrara and Bates (2001) and Jackson and Rosberg (1982), and mainly contributes to literature study the survival of the kleptocracy and other authoritarian regimes, such as ARV, Gandhi and Przeworski (2007) and Miquel (2006). This paper contributes to the literature by carrying out extensive theoretical study on the strategy of divide-and-rule in a kleptocracy. This paper not only explores how this strategy could be implemented by kleptocrats in various environments to sustain their power, but also investigates what factors may constrain this strategy and promote the democratization in such a society. Besides kleptocracies, the analytical results derived in this paper could be applied to any weakly institutionalized society with the following two features: a) the ruler is able to redistribute the political or economic resources in a society at any time at his will; b) and the ruler is able to implement discriminatory allocation policies at his will.

This paper will proceed in the following way. Section 1.2 develops the models of divide-and-rule by strong rulers. Section 1.3 develops the models of divide-and-rule by weak rulers. Section 1.4 generalizes the model of divide-and-rule to a society with a large numbers of citizen groups. Section 1.5 examines two cases in which the strategy of divide-and-rule may fail, thus leading to the breakdown of the kleptocracy. Section 1.6 applies the main analytical results to some real world cases. Section 1.7

concludes.

1.2 The Basic Framework

The society consists of a strong ruler and two groups of citizens: citizen group 1 and citizen group 2.[9] It is assumed that there is no collective action problem within a citizen groups, thus for sake of simplicity, 'citizen' and 'citizen group' are interchangeable in this paper. In every period, citizen i, where $i = 1,2$, is endowed with certain amount of surplus, denoted by $\omega_i > 0$, which refers to the economic interests (such as income and natural resources) and political interests (such as voting power and other political rights or power). Without affecting the main analytical result, the amount of the ruler's endowment is normalized to zero. The consumption of a citizen i, where $i = 1,2$, at time t is given by:

$$C_{i,t} = \omega_i - T_{i,t},$$

where $T_{i,t}$ is a lump-sum transfer or tax imposed on citizen i at time t. If $T_{i,t} \geqslant 0$, it means that the lump-sum tax imposed on citizen i is $T_{i,t}$ units; if $T_{i,t} < 0$, it implies that the lump-sum transfer to citizen i is $(-T_{i,t})$ units. The utility of citizen i, where $i = 1,2$, at time t is given by $\sum_{s=t}^{\infty} \beta C_{i,s}$, where $\beta \in (0,1)$ is the discount factor. Here, I assume that there is no deadweight loss resulting from taxation. Thus, we have: $-\omega_j \leqslant T_{i,t} \leqslant \omega_i$, and the government budget constraint (GBC) is given by:

$$C_{R,t} \leqslant T_{1,t} + T_{2,t} \text{ and } 0 \leqslant T_{1,t} + T_{2,t} \leqslant \omega_1 + \omega_2.$$

$C_{R,t}$ is the consumption of the ruler in a period. And the ruler is assumed to have the utility function $\sum_{s=t}^{\infty} \beta^s C_{R,s}$. The political state is denoted by S_{t-1}, where $S_{t-1} = D$ if it is a democracy; otherwise, $S_{t-1} = K$. In a kleptocracy, the ruler decides T_1 and T_2

[9] Here, the word 'citizen groups' can be replaced by 'ethnic group', 'producer groups' or 'interest group'.

in a period. In a democracy, the two citizens set $T_1 = T_2 = 0$, thus $C_k = 0$. Therefore, the expected lifetime utility of citizen i, where $i = 1,2$, in a democracy is given by:

$$V_i^D = \frac{\omega_i}{1-\beta}. \quad (1.1)$$

In this section and all the following sections, all the lifetime utilities for the players are expected values, and for the sake of simplicity, I leave out the expectation operator in the utility equations.

In this basic model, it is assumed that the strong ruler will always punish the citizen who is identified as the one who proposes to him from power. Timing of the events in the political game are as follows. In each period, t, the society inherits a political state, either $S_{t-1} = D$ or $S_{t-1} = K$. If $S_{t-1} = D$, the society remains so forever, and the two citizens play the game denoted by $\Gamma(D)$, where they set $T_1 = T_2 = 0$. If the society is a kleptocracy, i.e., $S_{t-1} = K$, they play the following game, denoted by $\Gamma(K)$, in period t:

1) The ruler announces (T_1, T_2).

2) Given (T_1, T_2), the citizens decide simultaneously whether to make a proposal to remove the ruler from power. If neither of the citizens make the proposal, (T_1, T_2) is implemented and the political system remains at $S_t = K$. While if at least one citizen make the proposal, the game moves on to the following stage

3) If citizen j, where $j = 1,2$, makes a proposal to remove the ruler, then $p_j = 1$; if not, then $p_j = 0$. If both citizens propose, each of them would be identified as the proposer with probability $\frac{1}{2}$, and there must be one and only one identified as the proposer. Observing the action taken by the citizens, the ruler makes a new offer (T_1^r, T_2^r). Citizen i, where $i \neq j$, responds to the proposal raised by citizen j and the new tax policy (T_1^r, T_2^r).

4) Given (T_1^r, T_2^r) and (T_1, T_2), if citizen i chooses to accept the proposal, denoted by $d_i = 1$, then the ruler is removed from power and the society switches to a democ-

racy, i.e., $S_t = D$. While if $d_i = 0$, the political system remains at $S_t = K$, and (T_1^r, T_2^r) is implemented, and the stage game remains $\Gamma(K)$ in the following period.

In this basic model and all the following extended models, the focus is put on pure strategy Markov Perfect Equilibrium (MPE), which is a mapping from the current state of the game and past events to strategies. Here, the only state variable is S_{t-1}. I introduce a tie-break assumption:

TIE-BREAK ASSUMPTION 1:

If the expected payoff from raising a proposal is equal to that from not raising it, a citizen will always choose not to raise it or support one raised by the other citizen.

It is assumed that in period t, there is no cost for setting a tax policy, however in the following periods under a kleptocracy, if the ruler announces a tax policy different from the initial tax policy in the previous period, this will induce a small cost $\varepsilon > 0$ for the ruler, where $\varepsilon \to 0$. This is to ensure that in the next period, the ruler will not change the initial tax policy implemented in the previous period without any gain. Given tie-break assumption 1, it is clear that any of the tax policies in the following tax policy will be sustainable in the stage game denoted $\Gamma(K)$ in every period:

$$\{(T_1 = \omega_1, T_2 = 0), (T_1 = 0, T_2 = \omega_2)\}$$

The above tax policy implies that the ruler can sustain the kleptocracy by taking all the endowment from one citizen, while allying with the other one by imposing a lump-sum tax that makes this citizen indifferent to whether the ruler is removed or not. In this basic model, it is assumed that following the collapse of the kleptocracy, the society will turn into a democracy, and each citizen keeps whatever he is endowed. Therefore, the lump-sum tax that makes this citizen indifferent is zero.

Either tax policy in the tax policy is called an '*allying tax policy*', which makes at least one of the citizens indifferent to whether the ruler is removed or not. I introduce another tie-break assumption:

TIE-BREAK ASSUMPTION 2:

If the rules gets the same payoff from the allying tax policy as that from the non-allying tax policies, he will always opt for the former.

Now, let's examine the tax policy that could be imposed by the ruler when $T_1, T_2 > 0$. Following the ruler's decision on (T_1, T_2), where $T_i > 0$ for $i = 1, 2$, whether citizen j, where $j = 1, 2$, is going to raise the proposal will depend on his expectation on the action taken by citizen i, where $i \neq j$. If citizen j expects that citizen i will not be bought off by a new tax policy (T_1^r, T_2^r), he will raise the proposal and the ruler will be removed from power; otherwise they will not, and the kleptocracy remains along the equilibrium path. Therefore, when the ruler announces (T_1, T_2), he must ensure that once he is challenged by either of the two citizens, a new tax policy (T_1^r, T_2^r) can be raised to buy off the other citizen. As long as the above constraint can be satisfied, the kleptocracy will remain and the initial tax policy (T_1, T_2) that maximizes the ruler's payoff will be sustained as the equilibrium tax policy (T_1^e, T_2^e) along the equilibrium path of the game. The MPE in this game will be characterized by backward induction.

1.2.1 Strong Ruler and Equal Endowments

Suppose that $\omega_1 = \omega_2$, and without loss of generality, let $\omega_1 = \omega_2 = 1$. It is obvious that if the ruler chooses the allying tax policy, his payoff in each period is 1. Now suppose the ruler announces a non-allying tax policy (T_1, T_2),where $T_i > 0$ for $i = 1, 2$. Let's start with the subgame in which citizen j, where $j = 1,2$, has made a proposal to remove the ruler and he is identified as the proposer. Then given the

initial tax policy, the ruler responds with T_i^r for citizen i, where $i \neq j$, so as to buy off him; otherwise he will be removed. Given (T_1, T_2), let's find out what is the new tax policy (T_1^r, T_2^r) that maximizes $V_i^K(T_i^r|T_i)$ subject to the GBC, where $V_i^K(T_i^r|T_i)$ is the expected continuation value for citizen i under kleptocracy if he accepts the new tax policy. This maximization problem can be written as:

$$V_i^K(T_i) = \underset{T_1^r, T_2^r}{Max} \quad V_i^K(T_i^r|T_i) \quad (1.2)$$

$$s.t. \ \ GBC \text{ i.e. } C_{R,t} \leqslant T_{1,t} + T_{2,t} \ \text{ and } \ 0 \leqslant T_{1,t} + T_{2,t} \leqslant 2.$$

Solving the above maximization problem, we have: $(T_j^{r*} = 1, T_i^{r*} = -1)$, which means that after a proposal is raised, the ruler will set the maximum tax 1 on citizen j, where $j = 1,2$, and provide 1 unit of transfer to citizen i, where $i \neq j$, in order to prevent him from supporting the proposal. Substituting $(T_j^{r*} = 1, T_i^{r*} = -1)$ into the above value function, we can derive the maximum off-the-equilibrium-path continuation value for citizen i in period t, as a function of the tax policy (T_1, T_2).

$$V_i^K(T_i) = 2 + \frac{\beta(1 - T_i)}{1 - \beta}. \quad (1.3)$$

Given $(T_j^{r*} = 1, T_i^{r*} = -1)$, if citizen i accepts the proposal of removing the ruler in period t , i.e., $d_i = 1$, the continuation value for him is given by V_i^D. It is clear: $V_i^K(T_i) \geqslant V_i^D$ if and only if $-T_i^{r*} \geqslant \frac{\beta T_i}{1-\beta}$, which gives:

$$T_i \leqslant \frac{1 - \beta}{\beta} \quad (1.4)$$

When $T_i > 0$ for $i = 1, 2$, in order to extract as much tax as possible from both citizens, the ruler will always raise a new tax policy such that given the original tax policy, the off-the-equilibrium path continuation value for citizen i will be maximized. Since $\beta \in (0, 1)$, it is clear by adjusting the value of T_i, we can always ensure the in-

equality (1.4) holds. Therefore along the equilibrium path, anticipating the response from the ruler and the action taken by the citizen receiving the proposal, neither citizens raises the proposal, thus the ruler can sustain the kleptocracy by the strategy of divide-and-rule. Subject to the constraint that $V_i^K(T_i) \geqslant V_i^D$, where $i = 1,2$, the initial tax policy (T_1, T_2) that maximizes the continuation value for the ruler will be sustained as the equilibrium tax policy along the equilibrium path of the game.

Here, the problem of maximizing the continuation value for the ruler along the equilibrium path, is equivalent to maximizing his per period consumption along the equilibrium path, i.e.:

$$\underset{T_1,T_2}{Max}\ C_R = T_1 + T_2,$$

subject to the constraint: given the initial tax policy (T_1, T_2), once a proposal is raised by one citizen, the ruler can always raise a new tax policy (T_1^r, T_2^r) such that $V_i^K(T_i) \geqslant V_i^D$ for another citizen.

Given the symmetry between the two citizens, we can infer that when $\beta \leqslant \frac{1}{2}$, $T_i^* = 1$, where $i = 1,2$. Given the tax policy $T_1^* = T_2^* = 1$, we have $C_R = 2$, which is larger than the payoff from the allying tax policy. When $\beta > \frac{1}{2}$, $T_i^* = \frac{1-\beta}{\beta}$, where $i = 1,2$. thus $C_R = \frac{2(1-\beta)}{\beta}$. It is easy to show when $\frac{1}{2} < \beta < \frac{2}{3}$, it is a dominant strategy for the ruler to set $(T_1 = \frac{1-\beta}{\beta}, T_2 = \frac{1-\beta}{\beta})$; When $\beta \geqslant \frac{2}{3}$, it is a weakly dominant strategy for the ruler to choose either of the allying tax policies, i.e.: $(T_1 = 1, T_2 = 0)$ or $(T_1 = 0, T_2 = 1)$.

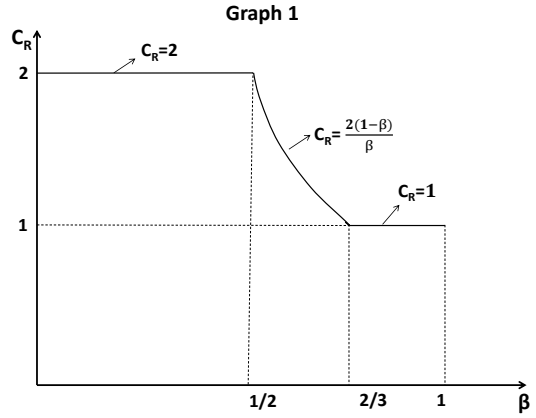
PROPOSITION 1.1:

a) When $\beta \leqslant \frac{1}{2}$, the MPE tax policy is given by: $(T_1^e = T_2^e = 1)$;

b) When $\frac{1}{2} < \beta < \frac{2}{3}$, there is a unique MPE tax policy: $(T_1^e = T_2^e = \frac{1-\beta}{\beta})$;

c) When $\beta \geqslant \frac{2}{3}$, the MPE tax policy is given by either one in the following tax policy: $\{(T_1^e = 1, T_2^e = 0),\ (T_1^e = 0, T_2^e = 1)\}$.

According to the above analytical results, when the citizens are extremely impatient, i.e., $\beta \leqslant \frac{1}{2}$, the ruler will exploit this and maximize his payoff by imposing the maximum tax on both of them. When the citizens are relatively patient, i.e. $\frac{1}{2} < \beta < \frac{2}{3}$, the ruler will impose equal positive tax on both citizens, which is monotonically decreasing on the discount factor β. When the citizens are rather patient, i.e. $\beta \geqslant \frac{2}{3}$, the ruler will ally with either of the citizens by imposing zero tax on him, in order to extract all the surplus from another citizen. Because when the citizens are extremely patient, if the ruler chooses to impose positive tax on both of the citizens, the total amount of the tax collected from both of them is less than 1, which is below the maximum tax that could be imposed on just one of them along the equilibrium path. The rulers' payoff in each period along the equilibrium path can be shown in the following graph:



1.2.2 Strong Ruler and Unequal Endowments

In this subsection, I assume that the endowments for the two citizens are unequal. Without loss of generality, I assume that citizen 1 has low endowment, and $\omega_1 = 1$; while citizen 2 has high endowment, and $\omega_2 = \mu > 1$. It is clear that either of the tax policies in the following policy vector will be sustainable in the stage game denoted by $\Gamma(K)$ in every period: $\{(T_1 = 1, T_2 = 0), (T_1 = 0, T_2 = \mu)\}$

It is obvious that $(T_1 = 0, T_2 = \mu)$ brings higher payoff to the ruler, compared to $(T_1 = 1, T_2 = 0)$. Hence, it is a strictly dominant strategy for the ruler to ally with the citizen with low endowment, compared to allying with the one with high endowment. The tax policy $(T_1 = 0, T_2 = \mu)$ gives μ units of payoff for the ruler in each period. Similar to the analysis in Subsection 1.2.1, it is easy to show if the ruler imposes positive tax on both citizens, the optimal sustainable tax policy for the ruler is given by: $(T_1 = min\{1, \frac{\mu(1-\beta)}{\beta}\}, T_2 = min\{\mu, \frac{1-\beta}{\beta}\})$. (Please refer to Appendix I.1 for the proof)

PROPOSITION 1.2: (Please refer to Appendix I.2 for the proof)

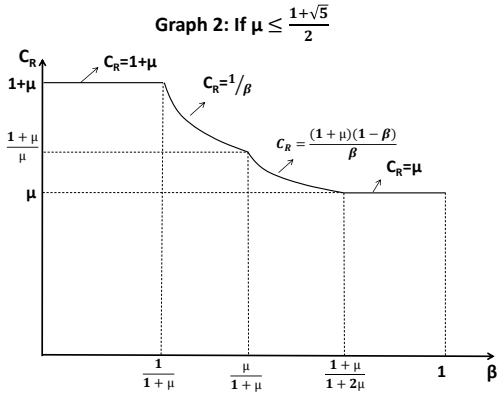
a) Given any value of μ*, when* $\beta \leqslant \frac{1}{1+\mu}$*, there is a unique MPE tax policy:* $(T_1^e = 1, T_2^e = \mu)$;

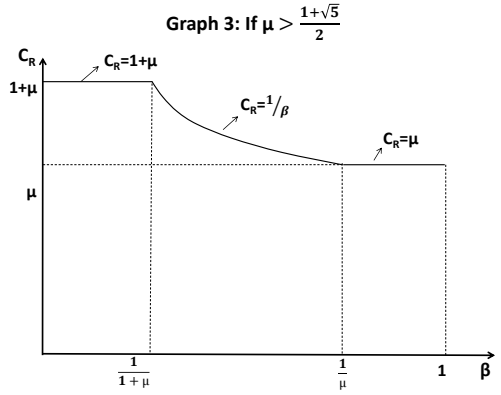
b) If $\mu \leqslant \frac{1+\sqrt{5}}{2}$*, i) when* $\frac{1}{1+\mu} < \beta \leqslant \frac{1+\mu}{1+2\mu}$*, there is a unique MPE tax policy:* $(T_1^e = min\{1, \frac{\mu(1-\beta)}{\beta}\}, T_2^e = \frac{1-\beta}{\beta})$;

ii) when $\beta > \frac{1+\mu}{1+2\mu}$*, there is a unique MPE tax policy:* $(T_1^e = 0, T_2^e = \mu)$;

c) If $\mu > \frac{1+\sqrt{5}}{2}$*, i) when* $\frac{1}{1+\mu} \leqslant \beta < \frac{1}{\mu}$*, there is a unique MPE tax policy:* $(T_1^e = 1, T_2^e = \frac{1-\beta}{\beta})$; *ii) when* $\beta \geqslant \frac{1}{\mu}$*, there is a unique MPE tax policy:* $(T_1^e = 0, T_2^e = \mu)$.

Based on the above analysis, the rulers' consumption in each period along the equilibrium can be shown in the following graphs:





In summary, in the case that the ruler imposes positive tax on both of the citizens, a challenge from citizen j, $j = 1, 2$, is met by (T_i^{r*}, T_j^{r*}) such that $V_i^K(T_i^r | T_i^e) \geqslant V_i^D$, as a result, citizen i, where $i \neq j$, would decline the proposal to remove the ruler, i.e., $d_i = 0$. Anticipating the response from the ruler and the action taken by the citizen receiving the proposal, neither citizen raises the proposal and the kleptocracy remains along the equilibrium path. In the case that the ruler imposes zero tax on one of the citizens and maximum tax on another one, the former citizen is indifferent to whether the ruler is removed or not, thus there is no chance for the other one to remove the ruler. As a result, the kleptocracy will be sustained along the equilibrium path.

The above analytical results show that greater inequality between the endowments of different social members may not necessarily decrease the ruler's payoff and constrain kleptocratic policies. Even if the citizens are identical, discriminatory tax policies may be implemented by the ruler, in order to maximize his payoff.

1.2.3 Strong Ruler and Anarchy

In the previous subsections, it is assumed that after the kleptocrat is removed from power, the society will switch into a democracy. But as we can observe from numerous cases throughout history, a democracy does not necessarily follows the collapse of a kleptocracy, instead, a society may fall into a state of anarchy after a kleptocrat is removed from power. This subsection is going to examine how the strategy of divide-and-rule could be implemented by the ruler, in the case that a state of anarchy follows the collapse of the kleptocracy.

In this subsection, it is assumed that after the kleptocrat is removed from power, the society will fall into the state of anarchy, in which a fight will break out between these two citizens, and the winner will keep his own endowment and seize the entire flow of the endowment of another citizen; while the loser will lose his endowment

forever.[10]

In this subsection, political regime is either a kleptocracy or an anarchy. The political state is denoted by S_{t-1}, where $S_{t-1} = A$ if it is an anarchy; otherwise, $S_{t-1} = K$. In the anarchy state, a fight will break out between these two citizens, and the winner will take all. Here, it is assumed that after a fight breaks out between these two players, player i will win with probability Q_i, where $Q_1 = q$ and $Q_2 = 1-q$. Thus the expected continuation values for the two citizens in the anarchy are given by:

$$V_1^A = \frac{2q}{1-\beta} \quad (1.5)$$

$$V_2^A = \frac{2(1-q)}{1-\beta} \quad (1.6)$$

It is obvious that when $q = \frac{1}{2}$, the analytical results in this model are exactly the same as those in Subsection 1.2.1. Without loss of generality, I assume $\frac{1}{2} < q < 1$, i.e., citizen 1 is relatively stronger than citizen 2. If the society is a kleptocracy, i.e., $S_{t-1} = K$, they play the stage game denoted by $\Gamma(K^A)$. The stage game $\Gamma(K^A)$ is the same as the one in the basic framework, except that after citizen j, where $j = 1,2$, proposes to remove the ruler, if citizen i, where $i \neq j$, accepts the proposal, the ruler is removed from power and the society switches to an anarchy, i.e., $S_t = A$, instead of a democracy.

PROPOSITION 1.3: (Please refer to Appendix I.3 for the proof)

If the collapse of the kleptocracy is followed by the state of anarchy, there is a unique MPE tax policy given by: $(T_1^e = 1, T_2^e = \frac{2q-\beta}{\beta})$.

We can infer that if the collapse of the kleptocracy is followed by the state of

[10]For more comprehensive and illuminating analysis on the strategic interaction between the players in the state of anarchy(/nature), please refer to Hirshleifer (1995) and Muthoo (2004).

anarchy, given any value of q and β, the ruler will always opt for the optimal allying tax policy. Given this tax policy, the citizen who is relatively stronger will be deprived of all of his endowment; while for the one who is relatively weaker, the cost to ally with the ruler is $\hat{T}_2$ in each period. It is clear that $\frac{\partial \hat{T}_2}{\partial q} = \frac{2}{\beta} > 0$, which shows that the cost is monotonically increasing on q, i.e., the weaker the ally, the more surplus the ruler can extract from him. And it is easy to show that when the citizens are relatively patient, i.e. $\beta > 1-q$, the ruler will be able to extract more total surplus, compared to the case that the collapse of the kleptocracy is followed by a democracy. This implies that if the citizens expect that the collapse of the kleptocracy would be followed by an anarchy and wars, this may help sustain the kleptocracy.

1.3 Equilibrium without the Commitment Assumption

In this two-citizen model, I remove the commitment assumption that the ruler will always punish the one who proposes, and allow the ruler to choose to punish or buy off anyone after a proposal is raised. If the society is a kleptocracy, i.e., $S_{t-1} = K$, they play the game, denoted by $\Gamma(\hat{K})$, in which all the other settings are the same to those in Subsection 1.2.1, except the following two points:

i) After the ruler makes a new offer (T_1^r, T_2^r), both citizens respond to the proposal and the new tax policy (T_1^r, T_2^r);

ii) Given (T_1, T_2) and (T_1^r, T_2^r), if both citizens choose to accept the proposal, denoted by $d_i = d_j = 1$, then the ruler is removed from power and the society switches to a democracy, i.e., $S_t = D$. Otherwise, the political system remains at $S_t = K$, and (T_1^r, T_2^r) is implemented in this period.

1.3.1 Weak Ruler and Equal Endowments

Here, it is assumed that the two citizens have equal endowments, i.e., $\omega_1 = \omega_2 = 1$. The analysis will start with the subgame in which given the initial tax policy

(T_1, T_2), where $T_1, T_2 > 0$, citizen j, where $j = 1, 2$, has made a proposal to remove the ruler and been identified by the ruler as the proposer. Then if the best response by the ruler is to punish citizen j and buy off citizen i, i.e., $(T^r_{j,t} = 1, T^r_{i,t} \leqslant 0)$, no one will raise a proposal again in any of the all the following periods. Thus the initial tax policy (T_1, T_2) will be sustained in all the periods starting from period $t+1$. In period t, in order to prevent citizen i from accepting the proposal, we must have $V^K_i\left(T^e_{i,t}\right) \geqslant V^D_i$, which gives:

$$T^r_{i,t} \leqslant -\frac{\beta T_i}{1-\beta} \quad (2.1)$$

Since $T^r_i \geqslant -1$, we can infer that the new tax policy that punishes citizen j would be applicable if and only if: $\frac{\beta T_i}{1-\beta} \leqslant 1$. This means that given $T_i \leqslant \frac{1-\beta}{\beta}$, in order to buy off citizen i, the ruler will seize one unit of endowment form citizen j, and transfer at least $\frac{\beta T_i}{1-\beta}$ unit to citizen i. Let $T^r_{i,t} = -\frac{\beta T_i}{1-\beta}$, we can derive that if the ruler chooses to punish the proposer, the continuation value for him is given by:

$$V_{R,t}(T^r_{j,t} = 1) = U_{R,t}(T^r_{j,t} = 1) + \beta V_{R,t+1}(T^r_{j,t} = 1)$$

$$= 1 - \frac{\beta T_i}{1-\beta} + \beta\left(\frac{T_i}{1-\beta} + \frac{T_j}{1-\beta}\right) = 1 + \frac{\beta T_j}{1-\beta} \quad (2.2)$$

While if the ruler chooses to buy off citizen j in period t, i.e., $(T^r_{i,t} = 1, T^r_{j,t} \leqslant 0)$. Then suppose that citizen j accepts $T^r_{j,t}$ and chooses to support the ruler, i.e., $d_{j,t} = 0$, the payoffs for citizens j and i in period t are given by:

$$U_{j,t}(T^r_{j,t} \leqslant 0) = 1 - T^r_{j,t}$$

$$U_{i,t}(T^r_{j,t} \leqslant 0) = 0$$

It is clear that if the transfer is sufficient to buy off the proposer, the kleptocracy will be sustained and the political state remains at $S_t = K$.

LEMMA 2.1:

Since citizens 1 *and* 2 *are identical, if it is the optimal strategy for the ruler to buy off the one who is identified as the proposer in period* t*, in the stage game* $\Gamma(\hat{K})$ *in any of the following periods, given* (T_1, T_2)*, no matter it is citizen* 1 *or* 2 *who is identified as the proposer, the ruler will always choose to buy off the proposer.*

Therefore, if the best response to $p_{j,t} = 1$ is given by $(T^r_{i,t} = 1, T^r_{j,t} \leqslant 0)$, in the stage game denoted by $\Gamma(K)$ in period t and all the following periods, both citizens will choose to propose, and the best response by the ruler is to buy off the one who is identified as the proposer. In a period, with probability $\frac{1}{2}$, citizen j will be identified by the ruler as the proposer. Therefore the expected payoff for citizen j in period $t+x$, where $x \geqslant 1$, is given by:

$$E[U_{j,t+x}] = \frac{1}{2}(1 - T^r_{j,t+x})$$

Since at any period following period t, when the ruler makes a new offer to buy off citizen j after he is identified as the proposer, the subgame between the ruler and citizen j in the stage game $\Gamma(\hat{K})$ is exactly the same as that in period t. Let $T^r_{j,t} = T^r_j$, then if T^r_j could be accepted by citizen j in period t, it will also be accepted by him at any period following period t. Therefore, we can infer that:

$$T^r_{j,t} = T^r_{j,t+1} = T^r_{j,t+2} = ... \equiv T^r_j$$

Hence we can derive that in period t, if the citizen j chooses to accept the new offer made by the ruler, the value function for him is given by:

$$V_{j,t}(d_{j,t}=0|T_j^r \leqslant 0) = 1 - T_{j,t}^r + \beta E[U_{j,t+1}] + \beta^2 E[U_{j,t+2}] + ...$$

$$= \frac{2-\beta}{2(1-\beta)}(1-T_j^r) \quad (2.3)$$

It is clear that given T_j^r, citizen j will choose to decline the proposal raised by citizen i, where $i \neq j$, if and only if $V_{j,t}(d_{j,t}=0|T_j^r \leqslant 0) \geqslant V_j^D$, which gives:

$$T_j^r \leqslant \frac{-\beta}{2-\beta}$$

Let $T_j^r = \frac{-\beta}{2-\beta}$, we can infer that if the ruler chooses to buy off the one who is identified as the proposer, a proposal would be raised in every period, and in order to buy off the proposer, he will provide $\frac{\beta}{2-\beta}$ unit of surplus to the proposer in each period, thus the value function for the ruler is given by:

$$V_{R,t}(T_{j,t}^r \leqslant 0) = \frac{2}{2-\beta} \quad (2.4)$$

It is easy to show: (2.2)$\geqslant$(2.4) if and only if:

$$T_j \geqslant \frac{1-\beta}{2-\beta} \quad (2.5)$$

LEMMA 2.2:

It is a weakly dominant strategy for the ruler to punish citizen j, where $j = 1, 2$, after he is identified as the proposer, if and only if the lump-sum tax that is imposed on him and could be sustained by punishing him, is equal to or larger than $\frac{1-\beta}{2-\beta}$.

Similar to the analysis in Subsection 1.2.1, it is clear that given (T_1, T_2), where $T_1, T_2 > 0$, if the ruler always chooses to punish the one identified as the proposer and buy off the other one, the optimal tax policy can be sustained is given by:

$$T_1 = T_2 = min\{\frac{1-\beta}{\beta}, 1\}$$

Since $\frac{1-\beta}{2-\beta} < min\{\frac{1-\beta}{\beta}, 1\}$, it is clear that for any value of $\beta \in (0,1)$, in the stage game $\Gamma(\hat{K})$ at any period, after a citizen is identified as the proposer, the best response by the ruler is always to punish the citizen who proposes and buy off the other one. Therefore, given $(T_1 = 1, T_2 = 1)$ when $\beta \leqslant \frac{1}{2}$ or $(T_1 = \frac{1-\beta}{\beta}, T_2 = \frac{1-\beta}{\beta})$ when $\beta > \frac{1}{2}$, anticipating the new tax policy imposed by the ruler after a citizen is identified as the proposer and the response of the citizen receiving the proposal, neither citizens would raise a proposal, thus the above tax policies could be sustained in all the periods.

Similar to the analysis in Subsection 1.2.1, it is easy to show if $\beta \leqslant \frac{1}{2}$, the MPE tax policy is: $(T_1^e = T_2^e = 1)$; while if $\frac{1}{2} < \beta \leqslant \frac{2}{3}$, the MPE tax policy is $(T_1^e = T_2^e = \frac{1-\beta}{\beta})$; while if $\frac{2}{3} < \beta < 1$, the MPE tax policy is: $(T_1^e = 1, T_2^e = 0)$ or $(T_1^e = 0, T_2^e = 1)$.

PROPOSITION 2.1.

Without commitment assumption, in the model with two citizens having equal endowments, given (T_1, T_2), where $T_1, T_2 > 0$, it is indeed an optimal strategy for the ruler to always punish the citizen who is identified as the proposer, and the derived analytical results are exactly the same to those in the basic model in Subsection 1.2.1, in which it is assumed that the proposer will always be punished.

According to the above proposition, we can infer that if a kleptocratic society has two citizen groups with similar endowments, it would be difficult to distinguish the types of the rulers, based on the redistribution policies adopted by them. Because both the strong ruler and the weak ruler will always punish the citizen initiating the challenge, and opt for similar redistribution policies.

1.3.2 Weak Ruler and Unequal Endowments

Now suppose that the two citizens have unequal endowments, and $\omega_1 = 1$ and $\omega_2 = \mu > 1$. We can derive the following lemma:

LEMMA 2.3: (Please refer to Appendix I.4 for the proof)

Given any initial tax policy (T_1, T_2), where $T_1, T_2 > 0$, in a period, if citizen 2 is identified as the proposer, it is a dominant strategy for the ruler to punish him and buy off citizen 1; while if citizen 1 is identified as the proposer, the best response by the ruler is always to buy off him.

Hence anticipating the response from the ruler, citizen 2 would never raise a proposal to remove the ruler from power, while citizen 1 will always propose as long as $T_1 > 0$. Hence in order to prevent citizen 1 from raising a proposal, the ruler must set $T_1 = 0$. Since citizen 2 will never propose, even if $T_2 = \mu$, we may conclude that the tax policy that is sustainable and maximizes the ruler's payoff along the equilibrium path is given by $(T_1^e = 0, T_2^e = \mu)$.

PROPOSITION 2.2:

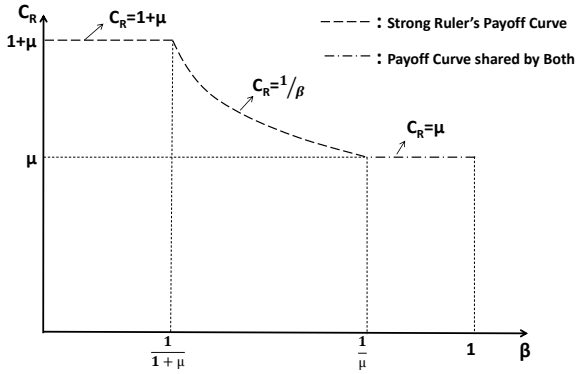
Without the commitment assumption, in the model with two-citizen having unequal endowments, there is a unique MPE tax policy given by $(T_1^e = 0, T_2^e = \mu)$, i.e., the ruler will always choose to sustain the kleptocracy by allying with the citizen with low endowment.

Given $(T_1^e = 0, T_2^e = \mu)$, citizen 1 has no incentive to raise a proposal and remove the ruler from power, since his payoff will not be increased by removing the ruler; while citizen 2 will not propose because it will never be successful in removing the ruler and the ruler is not going to buy off him after he is identified as the proposer. As a result, the kleptocracy will remain and this tax policy will be sustained in all the

periods. This implies that in order to maximize the payoff and sustain the kleptocracy, the ruler will always choose to ally with the citizen with low endowment by imposing zero lump-sum tax on him, while at the same time, seizes all the surplus from the citizen with high endowment.

As we can see, the above analytical results are different from those in the model in Subsection 1.2.2, in which it is assumed that the proposer will always be punished. In the model with the commitment assumption, it is not necessarily an optimal strategy for the ruler to ally with the low endowment citizen and deprive the high endowment one of all his surplus, and it is possible for the ruler to sustain the kleptocracy by imposing positive tax on both of the citizens. While in this model without the commitment assumption, along the equilibrium path, the ruler will always choose to ally with the low endowment citizen and deprive the other one of all his endowment, and it is impossible for the ruler to sustain a non-allying tax policy along the equilibrium path. When the citizens have unequal endowments and are relatively impatient, compared to the optimal allying tax policy, the sustainable optimal non-allying tax policy extracting tax from both citizens, may bring higher payoff to the ruler. Therefore, when the citizens have unequal endowments and are relatively impatient, compared to the weak ruler, the strong ruler can extract more total surplus along the equilibrium path. For example, when $\mu > \frac{1+\sqrt{5}}{2}$, the relative payoffs between the strong ruler and the weak one can be shown in the following graph:

Graph 4: Weaker Ruler vs Strong Ruler when $\mu > \frac{1+\sqrt{5}}{2}$



1.3.3 Weak Ruler and Anarchy

The environment in this subsection is the same to the one in Subsection 1.2.3 except that the strong ruler is now replaced by a weak one. Similar to the analysis in Subsection 1.3.2, we may conclude that if both of the citizens could benefit from removing the ruler from power, it is impossible for the ruler to sustain the kleptocracy. Therefore, in order to sustain the kleptocracy, the initial tax policy (T_1, T_2) should make at least one of the two citizens indifferent to whether the ruler is removed or not. Based on the analysis in Subsection 1.2.3, we know that it is a dominant strategy for the ruler to ally the citizen who is relatively weaker.

PROPOSITION 2.3:

If the kleptocracy by a weak ruler is followed by the state of anarchy, without the commitment assumption, there is a unique MPE tax policy: $(T_1^e = 1, T_2^e = \frac{2q-\beta}{\beta})$.

As we can see, the above analytical result is exactly the same to those in the model with commitment assumption in Subsection 1.2.3. This implies, if the kleptocracy is followed by the state of anarchy, no matter the ruler is strong type or weak type, he will always choose to allying the citizen who is relatively weaker along the equilibrium path. As a result, the citizen who is relatively strong is always marginalized in the redistribution, because of the discriminatory tax policy.

Combining the analytical results derived in Section 1.2 and 1.3, we can infer when the citizen groups are patient and heterogeneous, strong rulers may extract more tax from the citizen groups along the equilibrium path of sustaining their power. Because the former enjoy more flexibility in setting redistribution schemes that can sustain their power; while the latter have to implement an allying tax policy. Thus the divide-and-rule strategy could be more successfully implemented by a strong ruler, which

explains why the dictators may try to set an example for the ruled citizens groups, by punishing the one initiating the challenge. What is more, the results show that if the collapse of a kleptocracy would be followed by a state of anarchy, the citizen group with stronger capacity of fighting is more likely to suffer greater loss under the kleptocracy. Because a relatively weaker citizen group has stronger incentive to support the ruler to sustain the kleptocracy, thus the ruler will get higher payoff through allying with the weaker one and discriminating against the stronger one in the redistribution.

1.4 Larger Numbers of Citizen Groups

In the above basic model, we have shown that when there are only two citizens, the ruler can always successfully implement the strategy of divide-and-rule to sustain the kleptocracy. But what if there are more than two citizens? How will the increase in the number of citizens affect the survivability of the kleptocracy, and payoffs for the ruler and citizens? In order to answer the above questions, this section extends the model of divide-and-rule by a strong ruler to a society with n citizens, where $n \geqslant 3$. I assume that in order to remove the ruler, at least $\frac{n}{2}$ citizens need to accept the proposal if n is an even number; while at least $\frac{n-1}{2}$ citizens if n is an odd number. Two different cases are going to be examined in this section: one is that these n citizens have equal endowments, and the other one is that these n citizens could be divided into two groups with unequal endowments.

In this section, if $S_{t-1} = K$, they play the following game $\Gamma(\tilde{K})$ in period t:

1) The ruler announces $(T_1, T_2, ..., T_n)$.

2) All citizens decide simultaneously whether to raise a proposal to remove the ruler from power. If none of the citizens make the proposal, $(T_1, T_2, ..., T_n)$ is implemented and the political system remains at $S_t = K$. While if at least one citizen raises the proposal, the game moves on to the following stages.

3) If citizen j, where $j = 1, 2, ..., n$, makes a proposal to remove the ruler, denoted by $p_j = 1$; if not, denoted by $p_j = 0$. If at lease two citizens propose simultaneously, then randomly set $p_j = 1$ for one of them, and $p_i = 0$ for all the other ones. Observing the action taken by citizen j, the ruler makes a new offer $(T_1^r, T_2^r, ..., T_n^r)$. Then all the other citizens, except citizen j, respond to the proposal raised by citizen j and the new tax policy $(T_1^r, T_2^r, ..., T_n^r)$.

4) Given $(T_1, T_2, ..., T_n)$ and $(T_1^r, T_2^r, ..., T_n^r)$, If citizen i, where $i \neq j$, chooses to accept the proposal, denote this by $d_i = 1$. If $\sum_{i=1}^{n} d_i \geqslant \frac{n}{2}$ when n is an even number, or $\sum_{i=1}^{n} d_i \geqslant \frac{n-1}{2}$ when n is an odd number, the ruler is removed from power and the society switches to a democracy, i.e., $S_t = D$. Otherwise, the political system remains at $S_t = K$ and $(T_1^r, T_2^r, ..., T_n^r)$ is implemented, and the stage game $\Gamma(\tilde{K})$ remains in the following period.

1.4.1 Equal Endowments

Firstly, let's look at the case in which these n citizens have equal endowments. It is clear that in this extended model the GBC is given by:

$$C_{R,t} \leqslant \sum_{i=1}^{n} T_{i,t} \ \ and \ \ 0 \leqslant \sum_{i=1}^{n} T_{i,t} \leqslant n$$

Let's start with the subgame in which citizen j, where $j = 1, 2, ..., n$, has made a proposal to remove the ruler. Then given the initial tax policy, the ruler responds with a new tax policy $(T_1^r, T_2^r, ..., T_n^r)$. In order to sustain the kleptocracy, the ruler must ensure that $\sum_{i=1}^{n} d_i < \frac{n}{2}$ when n is an even number, or $\sum_{i=1}^{n} d_i < \frac{n-1}{2}$ when n is an odd number, otherwise he will be removed. Given the assumption that if the ruler announces a tax policy different from the initial tax policy in the previous period, this will induce a small cost $\varepsilon > 0$ for the ruler, we can infer that if the kleptocracy could be successfully sustained, the initial tax policy announced and implemented in period t, will also be implemented in all the periods along the equilibrium path.

Here, we can divide the analysis into two different cases, regarding whether n is an even number or an odd number. Firstly, let's examine the case that n is an odd number. In this case, as long as the ruler can buy off $\frac{n+1}{2}$ citizens, the kleptocracy can be sustained. Similar to the analysis in the previous section, now define:

$$V_i^K(T_i) = \underset{(T_1^r, T_2^r, \ldots, T_n^r)}{Max} \quad V_i^K(T_i^r | T_i) \quad (3.1)$$

$$s.t. \quad C_{R,t} \leqslant \sum_{i=1}^{n} T_{i,t} \ \ and \ \ 0 \leqslant \sum_{i=1}^{n} T_{i,t} \leqslant n$$

It is obvious that if the ruler will never try to prevent a citizen from supporting the proposal, he will impose the maximum tax on this citizen. Since the ruler only needs to prevent $\frac{n+1}{2}$ citizens from supporting the proposal, solving the above maximization problem, he will set a revised tax 1 on the citizen who raises the proposal and the other $(\frac{n-1}{2} - 1)$ citizens whom are chosen by the ruler not to buy off. The revised tax will be equal or smaller than one for the rest $\frac{n+1}{2}$ citizens, whom the ruler will try to prevent from supporting the proposal. Thus if the ruler tries to prevent citizen i, where $i \neq j$, from supporting the proposal, the maximum off-the-equilibrium path continuation value for this citizen can be presented as a function of the tax policy $(T_1, T_2, ..., T_n)$:

$$V_i^K(T_i^e) = 1 - T_i^r + \frac{\beta(1 - T_i)}{1 - \beta}. \quad (3.2)$$

If citizen i accepts the proposal of removing the ruler in period t, i.e., $d_i = 1$, his expected total discounted payoff is given by V_i^D. It is clear that $V_i^K(T_i) \geqslant V_i^D$ if and only if:

$$T_i \leqslant \frac{1 - \beta}{\beta}(-T_i^r). \quad (3.3)$$

Based on inequality (3.3), we can infer that if $T_i > 0$, given any value of $T_i^r < 0$,

by adjusting the value of T_i, we can always ensure the above inequality holds. This means if the initial tax imposed on a citizen is positive, in order to prevent him from supporting the proposal, the ruler needs to provide a positive amount of transfer to this citizen after he is challenged. This is in sharp contrast to the model in ARV, in which

It is important to note that given $T_i \leqslant 0$, inequality (3.3) holds as long as $T_i^r \leqslant \frac{-\beta T_i}{1-\beta}$ and $T_i^r \leqslant 1$. This implies that if the initial tax on a citizen is zero, the ruler can prevent this citizen from supporting the proposal with zero amount of transfer after he is challenged; While if the initial tax on a citizen is negative, i.e., the ruler provides a positive amount of transfer to this citizen, he can prevent this citizen from supporting the proposal even if he imposes a positive tax on this citizen after he is challenged. This is in sharp contrast to the model in ARV, in which the ruler will never provide any transfer to any citizen group along the equilibrium path.

The intuition is that as long as the ruler can prevent $\frac{n+1}{2}$ citizens from supporting the proposal, the initial tax policy that maximizes the ruler's payoff will be sustained along the equilibrium path in all the following periods starting from period $t+1$. Hence, the tax extracted by the ruler after he is challenged in period t, will be compensated by the transfer in all the following periods. The transfer provided by the ruler to a citizen could be regarded as a kind of 'insurance' against the risk of being challenged. The more total amount of transfer to some citizens, the more surplus could be mobilized by the ruler to fight off the challenge. The surplus that could be extracted from a citizen once the ruler is challenged, could serve as a universal deterrence on the rest citizens.

As long as the ruler can prevent $\frac{n+1}{2}$ citizens from supporting the proposal, along the equilibrium path, anticipating the response from the ruler and the action taken by the citizens who receive the proposal, no citizens raises the proposal. As a result, the kleptocracy will be successfully sustained by the strategy of divide-and-rule.

Subject to the constraint that $V_i^K(T_i) \geqslant V_i^D$ for $\frac{n+1}{2}$ citizens, the initial tax policy $(T_1^*, T_2^*, ..., T_n^*)$ that maximizes the ruler's payoff will be sustained as the MPE tax policy along the equilibrium path.

Since the ruler does not need to prevent all the citizens receiving the proposal from supporting it, we can infer that he can divide the citizens into two different groups. One consists of the potential citizens to be prevented from supporting the proposal after it is raised. The other one consists of the citizens whose decision on whether to support the proposal will not affect the survivability of the kleptocracy. Those citizens in the second group will be completely marginalized in the redistribution, no matter the ruler is challenged or not. Here, the first group is named as the NON-MARGINALIZED GROUP (henceforth NG), and the second group is named as the MARGINALIZED GROUP (henceforth MG). The problem of maximizing the ruler's payoff is given by:

$$\underset{T_1,...,T_n}{Max}\ C_R = \sum_{i=1}^{n} T_i,$$

subject to the constraint: given the initial tax policy $(T_1, T_2, ..., T_n)$, once a proposal is raised by a citizen, the ruler can always raise a new tax policy $(T_1^r, T_2^r, ..., T_n^r)$ such that $V_i^K(T_i) \geqslant V_i^D$ for $\frac{n+1}{2}$ citizens.

It is clear that in order to maximize the payoff along the equilibrium path, the ruler will set the maximum tax on all the citizens in the MG. In order to maximize the payoff, he needs to decide the minimum number of citizens to be put in NG. To answer this question, let's examine two different cases. In the first case that a proposal is raised by a citizen in the MG, to ensure $V_i^K(T_i) \geqslant V_i^D$ for $\frac{n+1}{2}$ citizens, the NG should at least consists of $\frac{n+1}{2}$ citizens. While in the second case that a proposal is raised by a citizen in the NG, to ensure $V_i^K(T_i) \geqslant V_i^D$ for $\frac{n+1}{2}$ citizens, the NG should at least consist of $\frac{n+3}{2}$ citizens, because the member of the NG who proposes,

will be penalized by the ruler. Therefore, to ensure that along the equilibrium path, the ruler will not be challenged by any citizen, the minimum number of citizens to be put in the NG is given by $\frac{n+3}{2}$.

After a proposal is raised by a citizen, if it is raised by a citizen in the NG, he will set the maximum revised tax 1 on this citizen; while if it is raised by a citizen in the MG, he will set the revised tax 1 on one citizen in the NG. It is clear that if the ruler imposes a zero or negative tax on a citizen in the NG, this citizen will never raise the proposal. Now suppose that in order to maximize the payoff, the ruler chooses to ally with m citizens in the NG, where $0 \leqslant m \leqslant \frac{n+1}{2}$, by imposing a zero or negative tax on each of them. Hence, we could further divide the citizens in the NG into two sub-groups: ALLY GROUP and NON-ALLY GROUP. Now rearrange all those citizens in the NG as the first $\frac{n+3}{2}$ ones, and those in the ally group as the first m ones.

It is obvious that to maximize the ruler's payoff along the equilibrium path, he will set tax 1 on $\frac{n-3}{2}$ citizens in the MG, and maximize the total tax revenue from those citizens in the NG. Given m citizens in the ally group, where $0 \leqslant m \leqslant \frac{n+1}{2}$, if a proposal is raised, the ruler can prevent all these m citizens from supporting the proposal with a revised tax policy $T_i^r \leqslant 0$, where $j = 1, 2, ..., m$, and the total amount of the tax that could be collected from these m citizens is given by $\sum_{i=1}^{m} T_i^r$. Here, let's use W to denote the total amount of surplus available to prevent $(\frac{n+1}{2} - m)$ citizens from supporting the proposal. We can derive that:

$$W = \sum_{i=1}^{m} T_i^r + \frac{n-1}{2} \quad (3.4)$$

It is clear that the ruler can prevent citizens j, where $j = 1, 2, ..., m$, from supporting the proposal if and only if::

$$T_i^r \leqslant -\frac{\beta}{1-\beta} T_i. \quad (3.5)$$

Since $T_i^r \leqslant 1$, we can infer that:

$$T_i \geqslant -\frac{1-\beta}{\beta} \equiv \tilde{T}_A, \quad (3.6)$$

where $i = 1, 2, ..., m$. Inequality (3.6) implies that because the maximum tax that could be extracted from a citizen is one, given the initial tax policy, the transfer provided by the ruler should be equal or less than $\frac{1-\beta}{\beta}$; otherwise, it would be a 'waste' for the ruler.

Let's use T_A to denote the average amount of transfer to the citizens in the ally group. We must have $T_A \geqslant \tilde{T}_A$, and the maximum total amount of surplus, available to prevent $(\frac{n+1}{2} - m)$ citizens from supporting the proposal, could be presented by:

$$W = m(-\frac{\beta}{1-\beta} T_A) + \frac{n-1}{2} \equiv \hat{W} \quad (3.7)$$

LEMMA 3.1: (Please refer to Appendix I.5 for the proof)

Given any value of W, the tax policy maximizing the total tax revenue from the non-ally group is given by a uniform tax policy:

$$T_{m+1} = T_{m+2} = ... = T_{\frac{n+3}{2}} = T_B,$$

where $T_B = min\{1, \hat{T}_B\}$ and $\hat{T}_B = \frac{1-\beta}{\beta}(\frac{W}{\frac{n+1}{2} - m})$

When $W = \hat{W}$, we have:

$$T_B = min\{1, \hat{T_B'}\}. \quad (3.8)$$

where $\hat{T_B'} = \frac{-mT_A + \frac{n-1}{2}(\frac{1-\beta}{\beta})}{\frac{n+1}{2} - m}$. We can infer that $\hat{T_B'} \leqslant 1$ if and only if:

$$T_A \geqslant -[\frac{2\beta n - (n-1)}{2\beta m} - 1] \equiv \hat{T}_A \quad (3.9)$$

Where $\hat{T}_A \leqslant 0$ if and only if:

$$m \leqslant \frac{2\beta n-(n-1)}{2\beta} \equiv \hat{m} \quad (3.10)$$

It is clear that given $m \leqslant \hat{m}$, we have: (please refer to Appendix I.6 for the proof)

$$\frac{\partial \hat{T_B'}}{\partial T_A} = \frac{m}{m-\frac{n+1}{2}} < 0,$$

which shows that when $m \leqslant \hat{m}$, $\hat{T_B'}$ is monotonically decreasing on T_A, i.e., increasing the average transfer to the citizens in the ally group will raise the uniform tax imposed on the citizens in the non-ally group. It is clear that when $\beta \leqslant \frac{n-1}{2n}$, we have $\hat{m} \leqslant 0$, and let $m = 0$, we can derive $T_B = 1$

PROPOSITION 3.1:

Given n is an odd number, when $\beta \leqslant \frac{n-1}{2n}$, *there is a unique MPE tax policy:* $(T_1^e = T_2^e = ... = T_n^e = 1)$.

Based on the above analysis, we can infer that when the citizens are impatient enough, i.e., $\beta \leqslant \frac{n-1}{2n}$, the ruler will impose the maximum tax on each of them along the equilibrium path. Now, let's denote the total tax revenue from the NG in each period by Π_N. When $\beta > \frac{n-1}{2n}$, we have $\hat{m} > 0$, and the problem for the ruler to maximize Π_N is given by:

$$\underset{m,T_A}{Max} \ \Pi_N = T_A m + T_B(\frac{n+3}{2} - m)$$

$$= T_A m + [\frac{-mT_A + \frac{n-1}{2}(\frac{1-\beta}{\beta})}{\frac{n+1}{2} - m}](\frac{n+3}{2} - m)$$

$$s.t. \ \ T_A \geqslant max\{\tilde{T}_A, \hat{T}_A\} \quad (3.11)$$

$$\text{and } m \leqslant \hat{m} \quad (3.12)$$

Solving the above maximization problem, we can derive the following proposition (Please refer to Appendix I.7 for the proof).

PROPOSITION 3.2: (Please refer to Appendix I.8 for numerical examples)

Given n is an odd number, when $\beta > \frac{n-1}{2n}$,

a) *if* $M_1 > \hat{M}_1$, *where* $M_1 = int(\frac{2\beta n-(n-1)}{2})$ *and* $\hat{M}_1 = \frac{(2\beta-1)(n-1)}{2\beta}$, *the MPE tax policy is given by any tax policy that satisfies the following condition: the tax on* $\frac{n-3}{2}$ *citizens is one; the tax on* M_1 *citizens is* $\tilde{T}_A$ *and the tax on* $(\frac{n+3}{2} - M_1)$ *citizens is* $\tilde{T}_B$, *where* $\tilde{T}_A = -\frac{1-\beta}{\beta}$ *and* $\tilde{T}_B = \frac{1-\beta}{\beta}[\frac{\frac{n-1}{2}+M_1}{\frac{n+1}{2}-M_1}]$;

b) if $M_1 \leqslant \hat{M}_1$, *the MPE tax policy is given by any tax policy that satisfies the following condition: the tax on* $(n - M_1 - 1)$ *citizens is one; rearrange the rest* $(M_1 + 1)$ *citizens as the first* $(M_1 + 1)$ *citizens, then the tax on these* $(M_1 + 1)$ *citizens falls in the policy vector:* $\Phi_1 = \{(T_1, T_2, ..., T_{M_1+1}) | \sum_{j=1}^{M_1+1} T_j = (M_1 + 1)\hat{T}_A^{'}$ *and* $-\frac{1-\beta}{\beta} \leqslant T_j \leqslant 0\}$, *where,* $\hat{T}_A^{'} = 1 - \frac{2\beta n-(n-1)}{2\beta(M_1+1)}$.

Similarly, we can derive the MPE tax policies for the case that *n* is an even number. Please refer to Appendix I.9 for the analytical result for this case.

Base on the above analysis, we can infer that in a kleptocracy, when there are large numbers of citizen groups, there is a tendency for the ruler to impose discriminatory tax on them. The ruler will impose the maximum tax on a number of citizen groups which are chosen by the ruler not to buy off, and among the other groups, the ruler will ally with a proportion of them by setting zero tax on them or provides a positive transfer to them along the equilibrium path, so as to extract as much surplus as possible from each of the rest groups.

The more total amount of transfer to some citizen groups, the more surplus could be mobilized by the ruler to fight off the challenge off the equilibrium path, thus higher tax could be imposed on other citizen groups along the equilibrium path. The surplus that could be extracted from an ally citizen group once the ruler is challenged, can serve as a universal deterrence on any of the non-ally citizen groups, thus raising the equilibrium tax on each of them. Therefore, with the increase in the number of non-ally citizen groups, the surplus that could be extracted from an ally citizen group will become more effective on raising the total tax revenue from the non-ally citizen groups.

Given the discriminatory tax policy, in all the periods along the equilibrium path, anticipating the response from the ruler and the action taken by the citizen groups who receive the proposal to remove the ruler, none of them raises the proposal. Hence, the ruler can sustain the kleptocracy by the divide-and-rule strategy successfully. As a result, a small number of citizen groups may benefit from the discriminatory redistribution policies under the kleptocracy, while the vast majority will become the victims of the kleptocracy. Sharp economic and political inequality between the citizen groups may arise purely because of the discriminatory policies resulting from the divide-and-rule strategy.

1.4.2 Unequal Endowments

Now let's look at the case in which these n citizens could be divided into two groups with unequal endowments. In order to simplify the analysis without affecting the main analytical results, it is further assumed that these n citizens, where $n \geqslant 5$ and it is an odd number, are classified into two groups with unequal endowments: n_1 citizens in the low endowment group and n_2 ones in the high endowment group, where $n_1 + n_2 = n$ and $n_1 \geqslant \frac{n+3}{2}$, which captures the notion that the citizens with low endowment are more than those with high endowment in this society. Each citizen i

is endowed with ω_i unites of cake in a period. It is assumed that each citizen in the low endowment group is endowed with one unit of surplus; while each one in the high endowment group is endowed with μ units, where $\mu > 1$.

To maximize the payoff, the ruler will divide the citizens into the MG and the NG, and then further divide the citizens in the NG into ally group and non-ally group. To maximize the payoff, the ruler need to maximize the aggregate tax revenue from the MG and the NG. It is clear that the tax revenue from MG will be maximized by putting all the citizens with high endowment in this group; while in order to maximize the tax revenue from the NG, the ruler should be able to mobilize as much surplus as possible to buy off $\frac{n+1}{2}$ citizens in the NG when he is challenged. Hence, the ruler will put all the n_2 high endowment citizens and $(\frac{n-3}{2} - n_2)$ low endowment citizens in the MG, and put the rest $\frac{n+3}{2}$ low endowment citizens in the NG. Similar to the analysis in the Subsection 1.4.1, we can solve the MPE in this subsection.

PROPOSITION 3.3:

a) When $\beta \leqslant \frac{n_2(2\mu-1)+n_1-1}{2(n_1+n_2\mu)}$, *there is a unique MPE tax policy given by:* $T_1^e = T_2^e = ... = T_n^e = 1$.

b) When $\beta > \frac{n_2(2\mu-1)+n_1-1}{2(n_1+n_2\mu)}$, i) *if* $M_3 > \hat{M}_3$, *where* $M_3 = int(m^{\#})$, $m^{\#} = \beta(\frac{n+1}{2}) - (1-\beta)[n_2(\mu-1) + \frac{n-1}{2}]$ *and* $\hat{M}_3 = \frac{n-1}{2} - \frac{1-\beta}{\beta}[n_2(\mu-1) + \frac{n-1}{2}]$, *the MPE tax policy is given by any tax policy that satisfies the following condition: the tax on* n_2 *high endowment citizens is* μ *and the tax on* $(\frac{n-3}{2} - n_2)$ low endowment citizens *is one; the tax on* M_3 *low endowment citizens is* $(-\frac{1-\beta}{\beta})$ *and the tax on* $(\frac{n+3}{2} - M_3)$ is: $\frac{1-\beta}{\beta}[\frac{n_2(\mu-1)+\frac{n-1}{2}+M_3}{\frac{n+1}{2}-M_3}]$;

ii) while if $M_3 \leqslant \hat{M}_3$, *the MPE tax policy is given by any tax policy that satisfies the following condition: the tax on* n_2 *high endowment citizens is* μ, *and the tax on* $(n_1 - M_3 - 1)$ low endowment citizens *is one; and rearrange the rest* $(M_3 + 1)$ *citizens as the first* $(M_3 + 1)$ *citizens, then the tax on these* $(M_3 + 1)$ *citizens falls*

in the policy vector: $\Phi_3 = \{(T_1, T_2, ..., T_{M_3+1}) | \sum_{j=1}^{M_3+1} T_j = (M_3+1)T_A^{\#}$ and $-\frac{1-\beta}{\beta} \leqslant T_j \leqslant 0\}$. *Here,* $T_A^{\#} = 1 - \frac{\frac{n+1}{2} - \frac{1-\beta}{\beta}[n_2(\mu-1)+\frac{n-1}{2}]}{M_3+1}$.

It is clear that $\frac{\partial m^{\#}}{\partial \mu} = -n_2(1-\beta) < 0$, which implies that with the increase in the endowment inequality will decrease the number of low endowment citizens in the ally group. The intuition is that when the ruler can extract more tax from the high endowment citizens, he needs to ally with less low endowment citizens, in order to extract as much tax as possible from the rest low endowment citizens. Based on the above analysis, we can infer that in a kleptocracy society, the citizens with high endowment are more likely to be marginalized because of the divide-and-rule strategy.

1.5 The Failure of Divide-and-Rule

All the above parts of the paper illustrate how the strategy of divide-and-rule can be successfully implemented in different environments. Although this strategy is powerful, it does not mean it would be always successful. In this section, we are going to illustrate two cases in which the strategy of divide-and-rule may fail, thus leading to the breakdown of the kleptocracy. In the first case, it is assumed that the citizens believe that they would receive an extra amount of surplus by removing the ruler from power. In the second case, I assume that the citizens believe in altruism, thus a citizen's utility function is not only affected by his own payoff, but also affected by the other one's.

1.5.1 A Bonus for Removing the Kleptocrat

In the previous sections, the surplus endowed to the citizens is not affected by the change in the political state. While in this subsection, I assume that the citizens expect that there would be some additional surplus endowed to them after removing

the ruler. The additional surplus may come from the foreign aid to reward the removal of the kleptocrat and the democratization in this society. This subsection is going to examine how this expectation may affect the interaction between the ruler and the citizens, and the survivability of a kleptocracy. This subsection introduces an extended model by making the following variations to the basic framework in Section 1.2:

i) The citizens believe that following the removal of the kleptocrat, each of them will receive an extra amount of surplus θ, where $\theta > 0$.

ii) A tax policy is sustainable if and only if $C_R \geqslant 0$, otherwise the kleptocracy would break down and the society would switch to a democracy.

iii) If the society is a kleptocracy, i.e., $S_{t-1} = K$, they play the stage game specified in Section 1.2, except for that given (T_1, T_2) or (T_1^r, T_2^r), the game will move on to the next stages if and only if $C_R \geqslant 0$; otherwise, if $C_R < 0$, the kleptocracy would break down and the society switches to a democracy.

All the rest settings in this subsection are the same as those in Section 1.2, except those mentioned above. It is clear that if the kleptocracy breaks down and the society switches to a democracy, the continuation value for citizen i, where $i = 1, 2$, is given by: $V_i^D = \frac{1+\theta}{1-\beta}$.

PROPOSITION 4.1: (Please refer to Appendix I.10 for the proof)

a) When $\theta > 1$, no tax policy could be sustainable along the equilibrium path, thus the kleptocracy will break down;

b) When $1 - \beta < \theta \leqslant 1$, the MPE tax policy is given by either of the two tax policies in the policy vector: $\{(T_1^e = 1, T_2^e = \frac{1-\beta-\theta}{\beta}), (T_1^e = \frac{1-\beta-\theta}{\beta}, T_2^e = 1)\}$;

c) When $\theta \leqslant 1-\beta$ and $\beta \geqslant \frac{2}{3}$, or $\frac{2-3\beta}{2} \leqslant \theta \leqslant 1-\beta$ and $\beta < \frac{2}{3}$, the MPE tax policy is given by either of the tax policies in the policy vector: $\{(T_1 = 1, T_2 = 0), (T_1 = 0, T_2 = 1)\}$;

d) When $\theta < \frac{2-3\beta}{2}$ *and* $\beta < \frac{2}{3}$*, there is a unique MPE tax policy given by:* $(T_1^e = T_2^e = \frac{1-\beta-\theta}{\beta})$.

Based on the above analytical result, we can find that if the citizens expect that there would be a bonus for removing the kleptocrat, the kleptocracy would be sustainable if and only if the bonus is less than or equal to one, i.e., $\theta \leqslant 1$, otherwise it would break down. An allying tax policy is sustainable as long as $\theta \leqslant 1$, while a non-allying tax policy is sustainable if and only if $\theta \leqslant 1-\beta$. This means that when there is a bonus for removing the ruler, the allying tax policy increases the survivability of a kleptocracy.

What is more, we can find that the ruler will opt for the optimal non-allying tax policy if and only if the citizens are rather impatient and the bonus is rather small, i.e., $\beta < \frac{2}{3}$ and $\theta < \frac{2-3\beta}{2}$; Otherwise, the ruler will always opt for the allying tax policy when both types of tax policies are sustainable, or the ruler will have to adopt the allying tax policy because only the allying tax policy is sustainable. When $\theta \leqslant 1$, the increase in the expected bonus will either increase the cost to ally with one of the citizens, or decrease the tax imposed on both citizens, thus raising the payoff to the citizens and reducing the payoff to the ruler along the equilibrium path.

1.5.2 Divide-and-Rule and Altruism

This subsection is going to introduce an extended model, based on the basic framework in Section 1.2, to illustrate how the belief in altruism may affect the citizens' payoff and the sustainability of kleptocracy. A person may care about the welfare of the other ones if they are connected to each other by kin, love or friendship. Similarly, a citizen group may care about the payoff to the other citizen groups if they are connected to each other through marriage or religious institutions. According to Bruni (2008), altruism between individuals or citizen groups is more likely to

prevail in a civil society (such as Thailand and Burma) than a tribal society (such as Libya and Kenya). To examine the impact of altruism on the kleptocracy, I assume that the utility of citizen i, where $i = 1,2$, in period t is given by: $U_{i,t} = C_{i,t} + \lambda C_{j,t}$, where $0 < \lambda < 1$, which measures the degree of altruism. What is more, I assume that sustaining the kleptocracy induces a cost for the ruler in every period, which is denoted by Z, where $0 < Z < 1$. Thus: $C_{R,t} = T_{1,t} + T_{2,t} - Z$, and the GBC is given by: $C_{R,t} \leqslant T_{1,t} + T_{2,t} - Z$ and $0 \leqslant T_{1,t} + T_{2,t} - Z \leqslant 2 - Z$.

If the society is a kleptocracy, i.e., $S_{t-1} = K$, they play the same stage game specified in Subsection 1.5.1. Except for those mentioned above, all the rest settings in this subsection are the same as those in Section 1.2. In the state of a democracy, the total discounted utilities for the citizens are given by: $V_1^D = V_2^D = \frac{1+\lambda}{1-\beta}$. If a tax policy (T_1, T_2) is implemented in a period, the payoff in this period for citizen i , where $i = 1,2$, is given by: $U_i = (1 - T_i) + \lambda(1 - T_j)$.

PROPOSITION 4.2: (Please refer to Appendix I.11 for the proof)

a) When $\lambda > \lambda^h$, where $\lambda^h = 1 - Z$, no tax policy could be sustainable along the equilibrium path, thus the kleptocracy will break down;

b) When $\lambda^m < \lambda \leqslant \lambda^h$, where $\lambda^m = (1-\beta)(1-Z)$, the MPE tax policy is given by either of the tax policies in the following policy vector: $\{(T_1^e = \hat{T^A}, T_2 = 1), (T_1^e = 1, T_2^e = \hat{T^A})\}$, where $\hat{T^A} = \frac{(1-\beta)(1-Z)-\lambda}{\beta}$;

c) When $\lambda \leqslant \lambda^m$, if and only if: i) $\beta < \frac{2}{3}$, ii) $Z < \tilde{Z}$, and iii) $\lambda < \lambda^l$, where $\tilde{Z} = \frac{1-\frac{3}{2}\beta}{1-\beta}$ and $\lambda^l = (1-\beta)(1-Z) - \frac{\beta}{2}$, there is a unique MPE tax policy given by: $(T_1^e = T_2^e = \hat{T^A})$; Otherwise, the MPE tax policy is given by either of the tax policies in the following policy vector: $\{(T_1 = 0, T_2 = 1), (T_1 = 1, T_2 = 0)\}$.

The above analytical result shows that the kleptocracy would break down when the degree of altruism is sufficiently high, i.e., $\lambda > \tilde{\lambda}$. Since $\frac{\partial \tilde{\lambda}}{\partial Z} = -1$, this shows

the increase in the cost of sustaining the kleptocracy will decrease its survivability. Since $\frac{\partial \hat{T^A}}{\partial \lambda} = -\frac{1}{\beta} < 0$, and it is clear: $\frac{\partial \hat{C}_R^A}{\partial \lambda} = -\frac{1}{\beta} < 0$ and $\frac{\partial \tilde{C}_R^A}{\partial \lambda} = -\frac{2}{\beta} < 0$. Hence, we can infer that when the degree of altruism is not high enough to remove the ruler, i.e., $\lambda \leqslant \tilde{\lambda}$, the increase in it may constrain the divide-and-rule strategy and decrease the ruler's payoff, through reducing the equilibrium tax imposed on the citizens or increasing the transfer to a citizen. The intuition is that the ruler uses the divide-and-rule strategy to exploit the fragility of the citizens' cooperation in challenging his rule, while the altruism between the citizens strengthen their incentive to cooperate, thus making the divide-and-rule strategy less effective and even incapacitated.

Since $\frac{\partial \hat{T^A}}{\partial \lambda} = -\frac{1}{\beta} < 0$, if we allow the value of λ to be negative, thus parameterizing the degree of hostility between the citizen groups, we can infer that lower value of λ may lead to higher equilibrium tax imposed on the citizen groups. This implies if the citizen groups are hostile to each other, this will enable the ruler to extract more surplus from each of them, thus enhancing the sustainability of the kleptocracy.

1.6 Applications of Main Analytical Results

In this section, the main analytical results in this paper will be applied in the illustration of some real world cases. First of all, the analytical results in Section 1.2 and 1.3 suggest that when the citizen groups are patient and heterogeneous, strong rulers may extract more tax from the citizen groups along the equilibrium path, because the former enjoy more flexibility in setting redistribution schemes that can sustain their power; while the latter have to implement a policy that may enable they to ally with one of the citizen groups. Thus the divide-and-rule strategy could be more effectively implemented by a strong ruler, who can manage to sustain the regime without relying on the alliance with any specific social group.

Brumberg (2003) points out that the kings in Arabic countries, such as Muhammad VI in Morocco and Abdullah II in Jordan, have an advantage on sustaining their

power through the strategy of divide-and-rule, because 'they act as referees of the political field, rather than captains of any one team, they have more freedom of maneuver to divide, manipulate, and thus control society's competing groups'. While by contrast, the Presidents in Arabic countries are tied to ruling parties, hence they often have less room to sustain their power by maneuvering and manipulating different social groups.

As noted by Wiarda (1968), Rafael Trujillo was a highly personalistic dictator, who concentrated power in his own hands and refused to share power with any other individuals or groups, and he managed to put the whole governmental machinery under his absolute control by constant shuffling and reshuffling of political office-holders, and frequently changing commands of armed forces and police. Ruthless oppression of actual or perceived member of any opposition was the key feature of Trujillo's regime, right from his assuming of dictatorship in 1930 (See Crassweller 1966).

Through his absolute monopoly over governmental machinery during his regime, Trujillo was able to implement the strategy of divide-and-rule without relying on an alliance with any specific individuals or citizen groups, which greatly facilitated his massive accumulation over the economy. By the end of his regime, the Trujillo family seized a fortune equal to about 100 percent of GDP at current prices, and they controlled almost 80 percent of the country's industrial production and 60 percent of the country's labor force depended on his economic empire directly or indirectly (See Moya Pons 1995). As a strong ruler, Trujillo managed to put the whole Dominican society under his absolute control, and there was few effective opposition movements during his rule from 1930 to 1961. Trujillo was characterized as one of the most successful rulers because of his absolute dominance on the political stage and overwhelming control of the economy

In Section 1.4, the model of the divide-and-rule strategy is generalized to a so-

ciety with any number of citizen groups, and examine the impacts of the increase in the number of citizen groups on the implementation of this strategy. The analytical results indicate that due to the divide-and-rule strategy, a small number of citizen groups may benefit from the discriminatory redistribution policies under the kleptocracy, while the vast majority of them will become the victims of the kleptocracy. As a result, sharp economic and political inequality between the citizen groups may arise, due to the discriminatory policies resulting from the divide-and-rule strategy.

The above analytical result may help explain the discriminatory policies implemented by Daniel arap Moi in Kenya, who was the President of Kenya from 1978 to 2002. Many reports and investigations indicated that there were sever human rights abuses[11] and stunning corruption under the Moi's regime.[12] After Moi assumed the presidency in 1978, he promoted disproportional political privileges to his Kalenjin community, while at the same time gradually marginalized the other ethnic groups, such as Kikuyu, Luo and Luhya, in the redistribution of political power. By 1990, most senior positions, in government, the military and security agencies, and state-owned corporations, were seized by Kalenjins (Africa Watch 1993).

In 1991, right after Moi was forced to repeal the party ban, his regime connived and supported the attacks launched by Kalenjin community against Kikuyus, Luhyas and Luo in Rift Valley, and later allowed the members of Kalenjin community to occupy land previously held by other ethnic groups in Rift Valley Province. Nowrojee and Manby (1993) reveals that the violence was manipulated by the Moi's government to reward and empower the Kalenjin community, and punish ethnic groups that have supported the political opposition, so as to secure continued support from Kalenjin, and consolidate the Kalenjin's hegemony in Rift Valley.

[11] See 'Civil and political rights, including questions of torture and detention : report of the Special Rapporteur, Nigel Rodley, submitted pursuant to Commission on Human Rights resolution 1999/32', available on http://daccess-dds-ny.un.org/doc/UNDOC/GEN/G00/115/09/PDF/G0011509.pdf?OpenElement.

[12] On 31 August 2007, the Guardian published a report by the international risk consultancy Kroll, which alleges that relatives and associates of Moi seized more than £1bn of government money

In Subsection 1.5.1, the analytical results show that if the citizen groups expect that they would receive some bonus from removing a kleptocratic ruler and introducing an alternative regime, the ruler may be forced to reduce the equilibrium tax imposed on them or even concede power, even if the expected bonus might not be actually realized after removing the ruler.

Brown (2005) notes that 'The 1990s saw the rapid growth of democracy promotion as bilateral and multilateral donors reformulated their priorities for assistance. With the disappearance of communism and Soviet expansionism as credible threats to the USA and its allies, security considerations lost much of their relevance, especially in Africa'. In 1990s, the U.S. government began to concentrate resources in those African countries that not only undertook market reform but also promised to respect civil and political liberties. While the European governments introduced modest political conditions promoting open economy and political liberalization, in the process of providing development aids to African countries.

Political conditionality cannot guarantee the initialization of liberalization reforms, while it cannot be denied that many authoritarian regimes in Africa implemented liberalizations reforms, under the pressure of political conditionality or in anticipation of donor actions(see Bratton and van de Walle 1997). Examples include Moi's regime in Kenya, Kamuzu Banda's in Malawi, and France-Albert René's in Seychelles. These cases indicate that the threat of political conditionality may help constrain the kleptocratic policies and exact political liberalization.

From 1986 onwards, Moi's government in Kenya faced continuous criticism and the urge for political liberalization from the church leaders and lawyers. In July 1990, a series of riots and mass disturbances broke out in Nairobi and regional towns. In 1991, two opposition parties[13] were formed by some prominent politicians in Kenya. Facing the increasing domestic pressure for political liberalization, Moi's government still insisted that Kenya would remain a one-party state before the international

[13]They are National Democratic Party and Forum for the Restoration of Democracy

donor's final push for political liberalization in November 1991. At the November 1991 meeting in Paris of the Consultative Group for Kenya, the donors explicitly told Kenyan representatives that future aid levels would depend on the implementation of political reform including 'greater pluralism, the importance of the rule of law and respect for human rights, notably basic freedoms of expression and assembly, and...firm action to deal with issues of corruption.' The donors made no further commitments of aid, and announced that they would 'review progress in these areas' in six months time.[14]

Two weeks after the Consultative Group meeting, Moi announced the immediate repeal of the ban on parties, and promised that the next parliamentary elections would be a multiparty affair. In December 1992, the first multiparty general elections were held in Kenya since its independence in 1963. Although there are many problems involved in the general elections (see Barkan 1993), this was a key step taken by Kenya in the process of political liberalization. The domestic opposition movements imposed great pressure on the Moi's government to during the liberalization in 1991 and 1992, while it is undeniable that the final and critical push came from the Western countries. The Consultative Groups introduced the political conditionality to reward the liberalization in Kenya, which significantly jeopardized Moi's capacity to fight off the opposition forces by the divide-and-rule strategy. As a result, Moi's government was forced to make political concession to the opposition groups.

In Subsection 1.5.2, the results indicate that if the citizen groups are closely connected to each other and mutually cares about each other's interests, this may serve to improve the payoff for each of them, and even remove the ruler from power; While if the citizen groups are hostile to each other, this will facilitate the survival of the kleptocracy and enable the ruler to seize more economic and political interests. This result can partially explain why Moi's government instigated and manipulated the

[14]See World Bank, "Press Release of the Meeting of the Consultative Group for Kenya," (Paris, 26 November 1991), p3-4.

violent conflicts between different ethnic groups in Kenya during 1990s.

In late 1991, Moi was forced to legalize a multi-party system, while the return to multi-partyism was accompanied by the eruption of ethnic violence in Kenya's Rift Valley, among Kikuyus, Luhyas, Luo and Kalenjin. The attacks launched by Moi's Kalenjin community were followed by the retaliatory attacks against the Kalenjin by the other three ethnic groups, which created an escalating cycle of violence[15] and fostered the growing atmosphere of hatred and suspicion between these communities that had lived together peacefully for many years. Nowrojee and Manby (1993) points out that: '...However, far from being the spontaneous result of a return to political pluralism, there is clear evidence that the government was involved in provoking this ethnic violence for political purposes and has taken no adequate steps to prevent it from spiraling out of control....The conflict has been deliberately manipulated and instigated by President Moi and his inner circle...'.

Nowrojee and Manby (1993) point out that Moi and his Kalenjin community benefited economically and politically from the violence. By allowing the members of Kalenjin community to occupy land previously held by other groups in Rift Valley Province, the violence was manipulated by Moi's government to reward and empower the Kalenjin community, and punish ethnic groups that have supported the political opposition. What is more, the resulting growing ethnic hatred prevented the Kalenjin from cooperating with Kikuyus, Luhyas and Luo in the political opposition movement.

In the early 1990s, the ethnic violence was limited to the Rift Valley, and the Western and Nyanza provinces, while it had expanded to include the Coastal Province during the 1997 elections. Mainly by skillfully exploiting the ethnic tensions in these contests, Moi won the presidential elections in 1992 and 1997. Mulli (1999) notes that 'by instigating ethnic violence, Moi fanned the fires of ethnic distrust which un-

[15]According to the estimation by Nowrojee and Manby (1993), the clashes had left at least 1,500 people dead and 300,000 displaced by late 1993.

derlie relations among ethnic groups. By stimulating this distrust, the voting pattern, especially for the presidential vote, was split and Moi was able to win despite failing to gain an outright majority'.

Levitsky and Way (2003) state: 'Divided oppositions may contribute to the survival of autocratic incumbents in at least two ways. First, in the electoral arena, opposition division often enables unpopular incumbents to win with a mere plurality of the vote... Polarized oppositions also enable autocratic incumbents to employ divide and rule strategies. In cases of severe internal division, one opposition party may work with the incumbent to prevent the victory of a rival party'.

1.7 Conclusion

How do these regimes, especially those kleptocracies, manage to sustain their rule over long periods? As pointed out by many researches, such as Brumberg (2003) and ARV, divide-and-rule is a key strategy for the survival of these regimes. Inspired by the observation of real world cases and the research in ARV, this paper develops a theory of divide-and-rule, explaining how kleptocracies can be sustained in equilibrium by implementing the divide-and-rule strategy in various environments. This paper develops two strands of divide-and-rule models: the models of divide-and-rule by strong rulers and the models of divide-and-rule by weak rulers. What is more, this paper generalizes the model of divide-and-rule to a society with any number of citizen groups.

The following are four main analytical results derived in the above models. Firstly, when the citizen groups are patient and heterogeneous, strong rulers may extract more surplus from the citizen groups along the equilibrium path of sustaining their rule, because the former enjoy more flexibility in setting redistribution schemes that can sustain their power. Secondly, the increase in the number of citizen groups may intensify the collective action problem and facilitate the implementation of this strategy,

thus increasing the ruler's payoff. Thirdly, because of the divide-and-rule strategy implemented by the ruler, a numbers of citizen groups may benefit from the discriminatory redistribution policies, while the vast majority of them will be marginalized in the redistribution of political and economic interests, thus economic or political inequality between them may purely result from discriminatory redistribution policies. Lastly, given the implicit assumption that each citizen group has the same voting power in removing the ruler from power, those citizen groups with high endowment or fighting capacity are more likely to suffer greater loss, compared to those with low endowment or fighting capacity, because of the divide-and-rule strategy.

What is more, this paper introduces two cases to show how the divide-and-rule strategy may fail, thus leading to the breakdown of the kleptocracy. The results derived in the first case show that under certain conditions, the increase in the expected bonus from removing the kleptocrat may help improve the payoff of the citizen groups under a kleptocracy, and when it is large enough the ruler may be forced to give up his power. The results derived in the second case indicate that if the citizen groups are closely connected to each other and mutually care about each other's interests, this may serve to improve the payoff for each of them, and even remove the ruler from power. While if the citizen groups are hostile to each other, this will facilitate the survival of a kleptocracy and enable the ruler to seize more economic and political interests.

Furthermore, the main analytical results in this paper are applied in illustration of some real world cases. This paper not only may help illustrate some economic and political consequences resulting from kleptocratic ruler in a society, but also may shed light on the questions about how to improve the economic and political rights of those citizens living under a kleptocracy, and how to remove a kleptocratic ruler and promote political liberalization in such a society.

The focus of this paper has been put on how the strategy of divide-and-rule could

be successfully implemented by the rulers to exploit the citizen groups and sustain their power. I introduce only two simple extended models to illustrate how this strategy may fail and the kleptocracy may breakdown. In order to provide more comprehensive answers to this question, further researches could be carried out in the following potential directions. The first one is to introduce into the model a player with strategic options that could jeopardize the effectiveness of divide-and-rule policy, examining how the interaction between this player and the ruler may affect the welfare of the civilians and the survivability of kleptocracy. The second one is to introduce incomplete or asymmetric information into the model, thus examining how this may affect the interaction between the players. The third one is to introduce a production function which may incorporate economic shocks, studying their impact on the survival of a kleptocracy. The last one is to introduce into the model a commitment mechanism between the ruled citizen groups, exploring how this may help bring down the kleptocrats.

2 Chapter II: Kleptocracy and the Benevolent Opposition Organizations

Abstract

A kleptocrat implements the strategy of divide-and-rule to prevent the cooperation between the ruled citizen groups, in order to maximize his economic and political interests, and sustain his personal rule. By punishing those citizen groups supporting the kleptocrats, the benevolent opposition organizations, like trade unions and religious institutions, may help strengthen the cooperation between them. This paper develops a theoretical framework, examining how these organizations may constrain the strategy of divide-and-rule, thus improving the welfare of the civilians and even removing the kleptocrats. What is more, this paper suggests that compared to punishing the citizen group supporting the ruler, the benevolent opposition organizations could more effectively constrain the kleptocracy through using available surplus to reward the citizen group who challenges the ruler or supports another citizen group in challenging the ruler.

2.1 Introduction

The strategy of divide-and-rule breaks up large group into small ones that individually is weaker than the one implementing the strategy, and exploits the interest conflicts and fragility of cooperation between the ruled citizen groups, so as to prevent the formation of an opposition coalition. This strategy has been implemented by various authoritarian rulers, including kleptocrats, in order to sustain their rule and maximize their political and economic interests. This strategy has been contributing to the survival of a number of notorious kleptocracies in long periods, including Kim Jong Il's rule in North Korea (1994-2011), Moi's Rule in Kenya (1978-2002), and Mugabe's in Zimbabwe (1980-present).

Although the strategy of divide-and-rule is powerful, it is not invincible. This

paper focuses on how the 'benevolent opposition organizations' may serve to counter the strategy of divide-and-rule. In this paper, the benevolent opposition organizations refer to those institutions with the follow two key features: i) these institutions have rather wide coverage among the population; and ii) they may help improve the economic welfare and/or political rights of their members. In most countries, there are two major forms of benevolent opposition organizations: the trade(/labour) unions and religious institutions (especially the Catholic Churches).

Based on the model developed in Chapter I, This paper introduces a theoretical framework to examine the impact of those benevolent opposition organizations on the strategy of divide-and-rule, the survivability of kleptocracies and the welfare of their members. What is more, this paper explores the following questions: i) how the ruler's ability to control the endowment to the ruled citizens or citizen groups may affect the survivability of the kleptocracy, his the payoff and the welfare of the citizens?; ii) how the benevolent opposition organizations could more effectively constrain the kleptocracy? The following are the main analytical results derived in this paper.

Firstly, the existence of the benevolent opposition organizations may help constrain the divide-and-rule strategy and even help remove the kleptocrats, through increasing the cost of supporting the rulers. They may contribute to increasing the payoffs to their members from two aspects. On one hand, the members are entitled to the benefits provided by them, which is the direct benefit. On the other had, the punishment threat imposed on their members by these groups, may help increase the transfer to a citizen or decrease the tax imposed on a citizen along the equilibrium path, which is the indirect benefit.

Secondly, if the rulers have more control over the allocation of the surplus endowed to the citizens, the effectiveness of the divide-and-rule strategy will be increased, thus increasing the survivability of kleptocracies. If a ruler has different

extents of control over the citizens' endowments, whether or not a kleptocracy is sustainable, is mainly determined by the maximum surplus that could be extracted from the citizen group whose endowments the ruler has more control over. When the ruler decides to ally with one of the citizen groups, he would always opt for allying with the citizen group whose endowment the ruler has less control over.

Lastly, compared to punishing the citizen supporting the ruler, the benevolent opposition organizations could more effectively constrain the kleptocracy through rewarding the citizen group who challenges the ruler or supports the other citizen group in challenging the ruler. Firstly, rewarding the citizen groups, compared to punishing the citizen groups, can significantly decrease the survivability of the kleptocracy. Secondly, when the opposition organization is not strong enough to help remove the ruler, it can reduce the ruler's payoff along the equilibrium path. Lastly, if the benevolent opposition organizations choose to reward the citizen initiates the challenge, this may prevent the ruler from adopting a discriminatory redistribution policy.

There has been a large number of literature studying the impact of trade unions and religious institutions on the welfare of their members and the democratization process in a state. Yao and Zhong (2010) argue labour unions in China contribute to the enhancing workers' welfare in the aspects of hourly wages, monthly working hours and pension coverage, based on a survey of 1,268 firms in 12 Chinese cities. Donado and Wälde (2012) point out that trade unions have played a crucial role in making workplaces safer and increasing the average health of workers.

Ellis and Haar (2006) argue that religious institutions play a major role in maintaining educational and health services in many African countries, including the Democratic Republic of Congo. According to Salih (2002), Islamic NGOs not only provide relief and humanitarian assistance to poor communities in African countries during emergencies and natural disasters, but also engage in long-term development

activities, including community development, agriculture, water, health and education.

Besides the important role as providers of services and assistance to their members, trade unions and religious institutions may become active and powerful political opposition forces against the authoritarian regimes. In several East/South European countries, including Poland, Czech Republic, Slovakia, Hungary, trade unions were crucial in the opposition to the dictatorships and the democratic transitions between 1970s and 1990s (Maarten 2008). For instance, Solidarity spearheaded the peaceful democratization in Poland in the 1980s (Cirtautas 1997), and the trade unions (MSZOSZ and LIGA) promoted the negotiated transition in Hungary (Bozóki 2002). In many African countries, trade unions played a crucial role in ousting dictatorships and bringing democracy to these countries in the 1990s. For example, in Niger, South Africa, Zambia, and Zimbabwe, political liberalization was directly prompted by union movements. In Ghana, Senegal, and Namibia, democratization was not initiated until the trade unions created a favorable political space for the other opposition organizations (Kraus 2007).

On the 100th Anniversary of Rerum Novarum in 1991, Pope John Paul II stated: ‘‘The Church values the democratic system inasmuch as it ensures the participation of citizens in making political choices, guarantees to the governed the possibility of electing and holding accountable those who govern them, and of replacing them through peaceful means when appropriate.” According to Huntington (1992), Catholic Church’s emphasis on individual rights and opposition to authoritarian rule, was one of the major driving forces leading to the third wave of democratization in Latin America, East Asia, southern Europe and Eastern Europe in the later twentieth century. Gifford (1995) points out that in several African countries, the Christian Church has played a critical role in the democratization movements since the late 1980s.

This paper mainly contributes to the literature on the impacts of trade unions and religious institutions on the democratization process in a state, by introducing a theoretical framework to examine how these institutions may constrain the divide-and-rule strategy. What is more, this paper is related to the study on the political economy of a weakly institutionalized society, such as Acemoglu, Robinson and Verdier (2004), Jackson and Rosberg (1982), and La Ferrara and Bates (2001).

This paper will proceed in the following way. Section 2.2 develops the base framework to illustrate how the benevolent opposition organizations could help constrain the kleptocracy by punishing the citizen group supporting the ruler. Section 2.3 introduces an extended model to examine the best strategy for the benevolent opposition organizations to constrain the kleptocracy. Section 2.4 concludes.

2.2 The Basic Model

The society consists of two citizen groups: citizen group 1 and citizen group 2, and it is assumed that there is no collective action problem within a citizen group. For the sake of simplicity, 'citizen' and 'citizen group' are interchangeable in this paper. In every period, each citizen is endowed with one unit of surplus. Without affecting the main analytical results, we normalize the amount of the ruler's endowment to zero. There is a benevolent opposition organization in this society, such as the Catholic church or a trade union, and both citizens are its members. In each period, as a member, citizen i, where $i = 1,2$, is entitled to $\lambda_i > 0$ units of additional surplus as long as he does not choose to support the ruler after his power is challenged. Otherwise, he would be punished by the opposition organization, losing the additional surplus forever. Here, λ_i measures the influence of the opposition organization on citizen i. The consumption of citizen i, where $i = 1,2$, in period t is given by: $C_{i,t} = 1 + \lambda_i - T_{i,t}$, where $T_{i,t}$ is a lump-sum transfer or tax imposed on citizen i at time t.

In this paper, the ruler's degree of control over the endowment of citizen i is measured by τ_i, where $0 < \tau_i \leqslant 1$, which represents the maximum lump-sum tax that can be imposed on citizen i. The higher the value of τ_i, the stronger the degree of control. The total discounted utility of the citizens and the ruler is given by: $V_{i,t} = \sum_{s=t}^{\infty} \beta C_{is}$, where $i = 1,2,R$ and β is the discount factor and $0 < \beta < 1$. Here, it is assumed that there is no deadweight loss resulting from taxation. Thus, we have: $-\tau_j \leqslant T_{it} \leqslant \tau_i$, where $i \neq j$, and the government budget constraint (GBC) is given by: $C_{R,t} \leqslant T_{1,t} + T_{2,t}$ and $0 \leqslant T_{1,t} + T_{2,t} \leqslant \tau_1 + \tau_2$, where $C_{R,t}$ is the consumption of the ruler in a period.

The political state is denoted by S_t, where $S_t = D$ if it is a democracy, and $S_t = K$ if it is a kleptocracy. I assume that a tax policy is sustainable if and only if $C_{R,t} \geqslant 0$, otherwise, if $C_{R,t} < 0$, it is not sustainable. In a period, if no tax policy is sustainable, the kleptocracy will break down and the society will switch to a democracy. In a democracy, the two citizens set $T_1 = T_2 = 0$, thus $C_R = 0$. Therefore, the lifetime utility of citizen i, where $i = 1,2$, in a democracy is given by: $V_i^D = \frac{1+\lambda_i}{1-\beta}$.

Here, I assume that the ruler is the strong type, thus he will always punish the citizen who proposes to remove him from power. Timing of the events in the political game are as follows. In each period, t, the society inherits a political state, either $S_{t-1} = D$ or $S_{t-1} = K$. If $S_{t-1} = D$, the society remains so forever, and the two citizens play the game denoted by $\Gamma(D)$. If $S_{t-1} = K$, they play the following game, denoted by $\Gamma(K)$, in period t:

1) The ruler announces a tax policy (T_1, T_2). If $C_R < 0$, the kleptocracy breaks down and the society switches to a democracy; while if $C_R \geqslant 0$, the game moves on to the following stages.

2) Given (T_1, T_2), the citizens decide simultaneously whether to make a proposal to remove the ruler from power. If neither of the citizens make the proposal, (T_1, T_2) is implemented and the political system remains at $S_t = K$. While if at least one

citizen makes the proposal, the game moves on to the following stage.

3) If citizen j, where $j = 1,2$, makes a proposal to remove the ruler, denoted by $p_j = 1$. If not, denoted by $p_j = 0$. If both citizens propose, each of them would be identified as the proposer with probability $\frac{1}{2}$, and there must be one and only one identified as the proposer. Observing the action taken by the citizens, the ruler makes a new offer (T_1^r, T_2^r). If $C_R < 0$, the kleptocracy breaks down and the society switches to a democracy; while if $C_R \geqslant 0$, the game moves on to the following stages.

4) Given (T_1, T_2) and (T_1^r, T_2^r), citizen i, where $i \neq j$, responds to the proposal raised by citizen j and the new tax policy (T_1^r, T_2^r). If citizen i chooses to accept the proposal, denoted by $d_i = 1$, the ruler is removed from power and the society switches to a democracy. While if $d_i = 0$, citizen i loses λ_i unit of additional surplus forever, and the political system remains at $S_t = K$ and (T_1^r, T_2^r) is implemented, and the stage game remains $\Gamma(K)$ in the following period.

Here, I introduce a tie-break assumption that if the expected payoff from changing the status quo is equal to that from sustaining it, a player will always opt for the actions sustaining the status quo. It is assumed that at the period t, there is no cost to set a tax policy, however in the following periods under a kleptocracy, if the ruler announces a tax policy different from the initial policy announced at the beginning of the previous period, this will induce a small cost $\varepsilon > 0$ for the ruler, where $\varepsilon \to 0$. In this basic model and all the following extended models, the focus is put on Markov Perfect Equilibrium (MPE).

2.2.1 Equal Additional Surpluses

In this subsection, it is assumed that $\tau_1 = \tau_2 = \tau$ and $\lambda_1 = \lambda_2 = \lambda$, where $\tau, \lambda > 0$. Given the tie-break assumption, if the ruler provides a positive lump-sum transfer to citizen i, $i = 1,2$, or impose zero lump-sum tax on him, i.e., when $T_i \leqslant 0$, there

would be no incentive for citizen i to raise a proposal to remove him from power. While to ensure that such an allying tax policy could be implemented to sustained the kleptocracy, the ruler must guarantee that once citizen j, where $j \neq i$, raises the proposal, he can raise a new tax policy that could prevent citizen i from supporting the proposal.

Suppose that following the tax policy (T_1, T_2) announced by the ruler, citizen j, where $j = 1, 2$, raises the proposal to remove the ruler from power and he is identified as the proposer. It is clear that observing the action taken by citizen j, the best response by the ruler is given by: $(T_i^r = -\tau, T_j^r = \tau)$, where $i \neq j$. This means that the ruler will impose the maximum lump-sum tax τ on citizen j, and provide τ unit of transfer to citizen i, in order to prevent the latter from supporting the proposal. Given the new tax policy, if citizen i chooses to decline the proposal, thus supporting the ruler, he will lose the additional surplus λ forever. Then expected continuation value for him is given by:

$$V_i^K = 1 + \tau + \frac{\beta(1 - T_i)}{1 - \beta} \quad (1.1)$$

It is obvious that citizen i will choose to accept the new tax policy if and only if $V_i^K \geqslant V_i^D$, which gives:

$$T_i \leqslant \frac{(1 - \beta)\tau - \lambda}{\beta} \equiv \hat{T} \quad (1.2)$$

where $\hat{T} \geqslant 0$ if and only if:

$$\lambda \leqslant (1 - \beta)\tau \equiv \lambda^h; \quad (1.3)$$

and $\hat{T} \geqslant -\tau$ if and only if:

$$\lambda \leqslant 1. \quad (1.4)$$

Inequality (1.4) implies that when $\lambda > 1$, no allying tax policy is applicable. When $\lambda^h < \lambda \leqslant 1$, we have: $-\tau \leqslant \hat{T} < 0$. Inequality (1.1) could be expressed as:

$$\tau \geqslant \frac{\beta T_i}{1-\beta} + \frac{\lambda}{1-\beta} (1.5)$$

Left hand side of inequality (1.4) represents the benefit for citizen i to accept the new tax policy, thus declining the proposal to remove the ruler, while the right hand sight represents the opportunity cost to accept the new tax policy. The benefit is given by τ, which is the maximum amount of transfer that could be provided by the ruler to prevent a citizen from accepting the proposal in a period.

The opportunist cost consists of two parts. If citizen i accepts the new tax policy, the kleptocracy would be sustained and the initial tax policy (T_1, T_2) would be implemented from the next period onwards. As a result, citizen i will pay the amount of tax equal to T_i when $T_i > 0$, and he will receive the amount of transfer equal to $(-T_i)$ when $T_i \leqslant 0$ from the next period onwards, This is represented by the first part $\frac{\beta T_i}{1-\beta}$. What is more, if citizen i accepts the new tax policy, he would be punished by the opposition organization, thus losing the additional surplus from the current period onwards, which is represented by the second part $\frac{\lambda}{1-\beta}$. It is obvious that the increase in the value of β raises the value of $\frac{\lambda}{1-\beta}$, which means that the increase in the citizens' patience will raise the opportunity cost of accepting the new tax policy.

When $\lambda^h < \lambda \leqslant 1$, the second part alone will outweigh the benefit. Hence, in order to ally with citizen i and prevent him from supporting the proposal, the ruler should provide at least $(-\hat{T})$ unit of transfer to citizen j in each period; While if $\lambda \leqslant \lambda^h$, the second part alone is not enough to outweigh the benefit, thus the ruler can ally with citizen i and prevent him from supporting the proposal by imposing zero tax on him. Therefore, it is clear the when $\lambda^h < \lambda \leqslant 1$, the optimal allying tax policy for the ruler is given by either one in the following policy vector: $\{(T_1 = \hat{T}, T_2 = \tau), (T_1 = \tau, T_2 = \hat{T})\}$, Given either of the optimal allying tax policies, we have:

$$C_R = \frac{\tau - \lambda}{\beta} = \tilde{C}_R \quad (1.6)$$

where $\tilde{C}_R \geqslant 0$ if and only if:

$$\lambda \leqslant \tau. \quad (1.7)$$

Inequality (1.7) means that when $\lambda > \lambda^h$, either of the above two optimal allying tax policies is sustainable if and only if: $\lambda^h < \lambda \leqslant \tau$. When $\lambda \leqslant \lambda^h$, the optimal allying tax policy is given by either one in the following policy vector: $\{(T_1 = 0, T_2 = \tau), (T_1 = \tau, T_2 = 0)\}$. Given either of the above two allying tax policies,

$$C_R = \tau > 0,$$

Therefore, when $\lambda \leqslant \lambda^h$, either of the optimal allying tax policy is always sustainable. Now, let's examine the optimal non-allying tax policy for the ruler. Suppose that observing a tax policy (T_1, T_2), where $T_1, T_2 > 0$, announced by the ruler, citizen j, where $j = 1, 2$, chooses to raise the proposal, it is clear that citizen i, where $i \neq j$, will choose to accept the new tax policy if and only if:

$$i.e.\ T_i \leqslant \hat{T} \quad (1.8)$$

Hence, it is clear that the optimal non-allying tax policy for the ruler is given by: $(T_1 = T_2 = T^*)$, where $T^* = min\{\tau, \hat{T}\}$, given which:

$$C_R = 2T^* \quad (1.9)$$

It is easy to show $\hat{T} \leqslant \tau$ if and only if:

$$\beta \geqslant \frac{\tau - \lambda}{2\tau} \equiv \beta^*, \quad (1.10)$$

where $\beta^* < \frac{1}{2}$, and it is clear that $\beta^* > 0$ if and only if $\lambda < \tau$. We have shown that $\hat{T} \geqslant 0$ if and only if $\lambda \leqslant \lambda^h$. Therefore, the above non-allying tax policy is sustainable if and only if $\lambda \leqslant \lambda^h$. Since: $\frac{\partial \hat{\lambda}}{\partial \beta} = -\tau < 0$, i.e., λ^h is monotonically decreasing on β, we can infer that the more patient are the citizens, the more difficult for the ruler to sustain the kleptocracy by the non-allying tax policy. Given $\lambda \leqslant \lambda^h$, we have $\beta^* > 0$. When $\beta \geqslant \beta^*$, we have $\hat{T} \leqslant \tau$, thus $T^* = \hat{T}$, given which:

$$C_R = \frac{2[(1-\beta)\tau - \lambda]}{\beta} \equiv \hat{C}_R \quad (1.11)$$

When $\beta < \beta^*$, we have $\hat{T} > \tau$, thus $T^* = \tau$, given which:

$$C_R = 2\tau > 0 \quad (1.12).$$

It is obvious when $\lambda \leqslant \lambda^h$ and $\beta < \beta^*$, the following optimal non-allying tax policy brings the ruler the highest payoff: $(T_1 = T_2 = \tau)$. When $\lambda \leqslant \hat{\lambda}$, it is easy to show: $\hat{C}_R > \tau$ if and only if:

$$\lambda < \frac{(2-3\beta)\tau}{2} \equiv \lambda^l \quad (1.13),$$

where $\lambda^l < \lambda^h$, and it is easy to show $\lambda^l > 0$ if and only if:

$$\beta < \frac{2}{3} \quad (1.14)$$

It is clear that when $\beta \geqslant \frac{2}{3}$, we always have $\lambda^l \leqslant 0 < \lambda$, hence, the optimal allying tax policy strictly dominates the optimal non-allying tax policy $(T_1 = T_2 = \hat{T})$. When $\beta^* \leqslant \beta < \frac{2}{3}$, if $\lambda^l \leqslant \lambda \leqslant \lambda^h$, the ruler will choose the optimal allying tax policy; while if $\lambda < \lambda^l$, the ruler will opt for the optimal non-allying tax policy.

PROPOSITION 1.1:

a) When $\lambda > \tau$, no tax policy is sustainable, thus the kleptocracy will break down;

b) When $\lambda^h < \lambda \leqslant \tau$, where $\lambda^h = (1-\beta)\tau$, the MPE tax policy is given by either one in the policy vector: $\{(T_1^e = \hat{T}, T_2^e = \tau), (T_1^e = \tau, T_2^e = \hat{T})\}$, *where* $\hat{T} = \frac{(1-\beta)\tau - \lambda}{\beta}$;

c) *When $\lambda \leqslant \lambda^h$ and $\beta < \beta^*$, where $\beta^* = \frac{\tau - \lambda}{2\tau}$, there is a unique MPE tax policy given by:* $(T_1^e = T_2^e = \tau)$;

d) When $\lambda \leqslant \lambda^h$ and $\beta \geqslant \frac{2}{3}$, or $\lambda^l \leqslant \lambda \leqslant \lambda^h$ and $\beta^* \leqslant \beta < \frac{2}{3}$, where $\lambda^l = \frac{(2-3\beta)\tau}{2}$, the MPE tax policy is given by either one in the following policy vector: $\{(T_1^e = 0, T_2^e = \tau), (T_1^e = \tau, T_2^e = 0)\}$;

e) When $\lambda < \lambda^l$ and $\beta^* \leqslant \beta < \frac{2}{3}$, *there is a unique MPE policy given by:* $(T_1^e = T_2^e = \hat{T})$.

It is obvious that: $\frac{\partial \tilde{C}_R}{\partial \lambda} = -\frac{1}{\beta} < 0$, and given $\lambda \leqslant \lambda^h$, we have: $\frac{\partial \hat{C}_R}{\partial \lambda} = -\frac{2(\tau - \lambda)}{\beta^2} < 0$. Therefore, we can infer that the rulers' payoff is non-monotonically decreasing on the influence of the opposition. It is is easy to show: $\frac{\partial \hat{T}}{\partial \lambda} = -\frac{1}{\beta} < 0$, which implies that if the opposition is relatively strong, i.e., $\lambda^h < \lambda \leqslant \tau$, the increase in the influence of the opposition will raise the ruler's cost to ally with a citizen; while if the opposition is relatively weak and the citizens are relatively patient, i.e., $\lambda < \lambda^l$ and $\beta^* \leqslant \beta < \frac{2}{3}$, the increase in the influence will decrease the tax imposed on both citizens along the equilibrium path. However, if the opposition is relatively weak and the citizens are rather impatient, i.e., $\lambda < \lambda^l$ and $\beta < \beta^*$, the opposition organization will have no effect on improving the payoffs for the citizens, and the ruler will impose the maximum tax on both citizens along the equilibrium path.

In summary, the existence of the opposition may contribute to the increase in the payoff to the citizens from two aspects. On one hand, the members are entitled to the benefits provided by them, which is the direct benefit. On the other had, the punishment threat imposed on their members by them, may help increase the transfer to a citizen or decrease the tax imposed on a citizen along the equilibrium path, which is the indirect benefit.

As we can see, the kleptocracy can be sustained by either the allying tax policy or the non-allying one, if and only if the maximum applicable tax is larger than the additional surplus that could be derived from the opposition. When the additional surplus is relatively high, i.e., $\hat{\lambda} < \lambda \leqslant \tau$, the ruler will always seek to ally with one of the citizens, so as to maximize his payoff. Under certain conditions, the decrease in the extent of control over a citizen's endowment will reduce the ruler's payoff along the equilibrium path.

2.2.2 Unequal Additional Surpluses

In this subsection, it is assumed that these two citizens derive unequal additional surpluses from the benevolent opposition organization, and without loss of generality, let $\lambda_1 > \lambda_2$. It is clear that the allying allying tax policy is given by either one the following policy vector: $\{(T_1 = \tau, T_2 = min\{0, \hat{T}_2\}), (T_1 = min\{0, \hat{T}_1\}, T_2 = \tau)\}$, where $\hat{T}_1 = \frac{(1-\beta)\tau - \lambda_1}{\beta}$ and $\hat{T}_2 = \frac{(1-\beta)\tau - \lambda_2}{\beta}$.

Given $\lambda_1 > \lambda_2$, we have $\hat{T}_1 < \hat{T}_2$. It is easy to show it is a weakly dominant strategy for the ruler to ally with the citizen with lower additional surplus, compared to allying with the citizen with higher additional surplus. Hence, the optimal allying tax policy is given by: $(T_1 = \tau, T_2 = min\{0, \hat{T}_2\})$.

PROPOSITION 1.2: (Please refer to Appendix II.1 for the proof)

a) When $\lambda_2 > \tau$, it is impossible for the ruler to sustain the regime by any tax policy, thus the kleptocracy will break down;

b) When $\lambda_2 \leqslant \tau$ and *$\lambda_1 > \lambda^h$, where $\lambda^h = (1-\beta)\tau$, there is a unique MPE tax policy: $(T_1^e = \tau, T_2^e = \hat{T}_2)$, where $\hat{T}_2 = \frac{(1-\beta)\tau - \lambda_2}{\beta}$;*

c) When $\lambda_1 \leqslant \lambda^h$, and $\beta^l \leqslant \beta < \beta^h$, where $\beta^h = \frac{\tau - \lambda_2}{2\tau}$ and $\beta^l = \frac{\tau - \lambda_1}{2\tau}$, there is a unique MPE tax policy: $(T_1^e = \hat{T}_1, T_2^e = \tau)$, where $\hat{T}_1 = \frac{(1-\beta)\tau - \lambda_1}{\beta}$;

d) When $\lambda_1 \leqslant \lambda^h$ and $\beta \geqslant \beta^h$, if $\lambda_1 + \lambda_2 \geqslant \tau(2-3\beta)$, there is a unique MPE tax

policy: $(T_1^e = \tau, T_2^e = 0)$; *while if* $\lambda_1 + \lambda_2 < \tau(2-3\beta)$*, there is a unique MPE tax policy:* $(T_1^e = \hat{T}_1, T_2^e = \hat{T}_2)$;

e) When $\lambda_1 \leqslant \lambda^h$ *and* $\beta < \beta^l$*, there is a unique MPE tax policy:* $(T_1^e = \tau, T_2^e = \tau)$,

Based on the above analysis, we can see that whether or not the kleptocracy is sustainable, is completely determined by the value of λ_2, i.e., the additional surplus for citizen 2. The ruler can sustain the kleptocracy if and only if $\lambda_2 \leqslant \tau$. This implies that the impact of the opposition organization on the survival of the kleptocracy and the welfare of his members is mainly affected by the 'weaker link' within the organization and the extent of the ruler's control over a citizen's endowment.

2.2.3 Different Extents of Control

In this subsection, it is assumed that the citizens derive the same amount of additional surplus from the opposition organization, while the ruler has different extents of control over the citizens' endowments. Without loss of generality, it is assumed that $\tau_1 > \tau_2$, i.e., the ruler can impose higher lump-sum tax on citizen one. To simplify the analysis without affecting the main analytical results, I assume $\frac{1}{2} \leqslant \beta < 1$ and $\tau_2 > (1-\beta)\tau_1$.

PROPOSITION 1.3: (Please refer to Appendix II.2 for the proof)

a) When $\lambda > \tau_1$*, it is impossible for the ruler to sustain the kleptocracy by any tax policy, thus the kleptocracy will break down;*

b) When $\hat{\lambda}^h < \lambda \leqslant \tau_1$*, where* $\hat{\lambda}^h = (1-\beta)\tau_1$*, there is a unique MPE tax policy:* $(T_1^e = \tau_1, T_2^e = \frac{(1-\beta)\tau_1 - \lambda}{\beta})$;

c) When $\hat{\lambda}^m < \lambda \leqslant \hat{\lambda}$*, where* $\hat{\lambda}^m = (1-\beta)\tau_2$*, there is a unique MPE tax policy:* $(T_1^e = \tau_1, T_2^e = 0)$;

d) When $\lambda \leqslant \hat{\lambda}^m$*, i) if* $\tau_1 \leqslant \hat{\tau}_1$ *and* $\tau_2 \leqslant \hat{\tau}_2$*, where* $\hat{\tau}_1 = \frac{\beta\tau_2}{1-\beta}$ *and* $\hat{\tau}_2 = \frac{(2\beta-1)\tau_1 + \lambda}{1-\beta}$,

or $\tau_1 > \hat{\tau}_1$, $\tau_2 \leqslant \hat{\tau}_2$ *and* $\lambda \geqslant \hat{\lambda}^l$, *where* $\hat{\lambda}^l = (1-\beta)\tau_1 - \beta\tau_2$, *there is a unique MPE tax policy:* $(T_1^e = \tau_1, T_2^e = 0)$;

ii) if $\tau_1 \leqslant \hat{\tau}_1$ *and* $\tau_2 > \hat{\tau}_2$, *or* $\tau_1 > \hat{\tau}_1$, $\tau_2 > \hat{\tau}_2$ *and* $\lambda \geqslant \hat{\lambda}^l$, *there is a unique MPE:* $(T_1^e = \frac{(1-\beta)\tau_2 - \lambda}{\beta}, T_2^e = \frac{(1-\beta)\tau_1 - \lambda}{\beta})$;

iii) if $\tau_1 > \hat{\tau}_1$, $\tau_2 \leqslant \frac{\beta\tau_2}{1-\beta}$ *and* $\lambda < \hat{\lambda}^l$, *there is a unique MPE tax policy:* $(T_1^e = \tau_1, T_2^e = 0)$;

iv) if $\tau_1 > \hat{\tau}_1$, $\tau_2 > \frac{\lambda}{1-\beta}$ *and* $\lambda < \hat{\lambda}^l$, *there is a unique MPE tax policy:* $(T_1^e = \frac{(1-\beta)\tau_2 - \lambda}{\beta}, T_2^e = \tau_2)$.

Base on the above analytical result, we can infer that if the ruler has different extents of control over the citizens' endowments, whether or the kleptocracy is sustainable, is determined by the maximum amount of surplus that could be extracted from the citizen with higher applicable tax. It is a dominant strategy for the ruler to ally with the citizen with lower maximum applicable tax, compared to allying with the one with higher maximum applicable tax.

2.3 Punishing vs Rewarding

In Section 2.2, the additional surplus from the opposition organization could only be used as a punishing scheme on its members. However, is this the most effective way to constrain the kleptocracy? To answer this question, this section allows the opposition organization to choose whether to adopt the punishing scheme or the rewarding scheme, so as to minimize its lost function:

$$L = -(T_1 + T_2) = -C_R$$

I assume that the opposition organization is endowed with 2λ units of surplus in each period, and the ruler is not able to impose a tax on the opposition organization. The punishing scheme means that the opposition organization will punish a citizen

by retrieving the additional surplus λ if the citizen chooses to decline the proposal to remove the ruler, otherwise he will receive an additional surplus λ at the end of each period. While the rewarding scheme means that the opposition organization will either reward the citizen who is identified as the proposer or reward the citizen who accepts the proposal, by providing him with 2λ units of additional surplus in each period; Otherwise no citizen will receive any additional surplus at the end of each period. If the ruler chooses the rewarding scheme, he will then decide whether to reward the proposer or the one supporting the proposal.

In each period t, the society inherits a political state, either $S_{t-1} = D$ or $S_{t-1} = K$. If $S_{t-1} = K$, they play the following game, denoted by $\Gamma(\hat{K})$, in period t.

At the beginning of period t, the benevolent opposition organization decides whether to adopt the punishing scheme or the rewarding scheme. If it chooses the punishing scheme, denote this $B = 0$; If it chooses the rewarding scheme, denote this by $B = 1$. If the opposition organization decides to reward the proposer, denote this by $W = 0$; while if it chooses to reward the one supporting the proposal, denote this by $W = 1$. Then the game moves on to the next stages specified in stage game $\Gamma(K)$ in Section 2.2. To simplify the analysis without affecting the main analytical results, it is assumed that $\beta > \frac{1}{2}$ in this section.

In this section, the problem for the opposition organization is given by the following minimization problem:

$$\underset{B\in\{0,1\},W\in\{0,1\}}{Min} \quad L(B,D) = (1-B)L(B=0)$$

$$+B[(1-D)L(B=1,D=0)+DL(B=1,D=1)$$

In order to find out the optimal solution for the above minimization problem, we need to examine the loss functions for the opposition organization corresponding to

different strategies. If the opposition organization chooses the punishing scheme, denoted by $B = 0$, then based on the analysis in Subsection 2.2.1, we can infer that:

1) When $\lambda > \tau$, no tax policy is sustainable. As a result, the kleptocracy will break down and the society will switch to a democracy, where the citizens set $T_1 = T_2 = 0$, hence: $L(B = 0, .) = 0$.

2) When $\lambda^h < \lambda \leqslant \tau$, given the optimal tax policy: either of $(T_1 = \hat{T}, T_2 = \tau)$ and $(T_1 = \tau, T_2 = \hat{T})$, we have: $L(B = 0, .) = -\frac{\tau - \lambda}{\beta}$;

3) When $\lambda \leqslant \lambda^h$ and $\beta \geqslant \frac{2}{3}$, or $\lambda^* \leqslant \lambda \leqslant \lambda^h$ and $\frac{1}{2} < \beta < \frac{2}{3}$, where $\lambda^* = \frac{(2-3\beta)\tau}{2}$, given the optimal tax policy: either of $(T_1 = 0, T_2 = \tau)$ and $(T_1 = \tau, T_2 = 0)$, we have: $L(B = 0, .) = -\tau$;

4) When $\lambda < \lambda^*$ *and* $\frac{1}{2} < \beta < \frac{2}{3}$, given the optimal tax policy $(T_1 = T_2 = \hat{T})$, we have: $L(B = 0, .) = -\frac{2[(1-\beta)\tau - \lambda]}{\beta}$.

If the opposition organization chooses to reward the citizen supporting the proposal, denoted by $B = 1$ and $W = 1$. Suppose given (T_1, T_2), citizen j, where $j = 1, 2$, raises the proposal and he is identified as the proposer. Following the action taken by citizen j, the ruler announces a new tax policy $(T_i^r = -\tau, T_j^r = \tau)$. Given (T_1, T_2) and $(T_i^r = -\tau, T_j^r = \tau)$, if citizen i, where $i \neq j$, accepts the proposal, thus removing the ruler from power, his discounted total payoff is given by:

$$V_i(d_i = 1 | p_j = 1, B = 1, W = 1) = \frac{1 + 2\lambda}{1 - \beta}. \quad (2.5)$$

While if he declines the proposal, his discounted total payoff is given by equation (1.2). Similar to the analysis in Subsection 2.2.1, we can derive the following results:

1) When $\lambda > \frac{\tau}{2}$, no tax policy is sustainable, thus the kleptocracy will break down, hence:

$$L(B = 1, W = 1) = 0; \quad (2.6)$$

2) When $\frac{\lambda^h}{2} < \lambda \leqslant \frac{\tau}{2}$, given the optimal tax policy: either of $(T_1 = \tilde{T}, T_2 = \tau)$ and

$(T_1 = \tau, T_2 = \tilde{T})$, where $\tilde{T} = \frac{(1-\beta)\tau - 2\lambda}{\beta}$, we have:

$$L(B = 1, W = 1) = -\frac{\tau - 2\lambda}{\beta}; \quad (2.7)$$

3) When $\lambda \leqslant \frac{\lambda^h}{2}$ and $\beta \geqslant \frac{2}{3}$, or $\frac{(2-3\beta)\tau}{4} \leqslant \lambda \leqslant \frac{\lambda^h}{2}$ and $\frac{1}{2} < \beta < \frac{2}{3}$, given the optimal tax policy: either of $(T_1 = 0, T_2 = \tau)$ and $(T_1 = \tau, T_2 = 0)$, we have:

$$L(B = 1, W = 1) = -\tau; \quad (2.8)$$

5) When $\lambda < \frac{(2-3\beta)\tau}{4}$ and $\frac{1}{2} < \beta < \frac{2}{3}$, given the optimal tax policy $(T_1 = T_2 = \tilde{T})$, we have:

$$L(B = 1, W = 1) = -\frac{2[(1-\beta)\tau - 2\lambda]}{\beta}. \quad (2.9)$$

The above analysis shows that if the opposition organization chooses to reward the citizen supporting the proposal, instead of punishing the citizens, the kleptocracy would be sustainable if and only if $\lambda \leqslant \frac{\tau}{2}$, thus there is a significant decrease in the survivability of the kleptocracy. What is more, it is easy to show given any value of λ and β, we always have:

$$L(B = 1, W = 1) \geqslant L(B = 0, .), \quad (2.10)$$

Inequality (2.10) means it is a dominant strategy for the opposition organization to reward the citizen supporting the proposal, compared to adopting the punishing scheme.

Now, let's examine the loss functions if the opposition organization chooses to reward the proposer, denoted by $B = 1$ and $W = 0$. Suppose given (T_1, T_2), citizen j, where $j = 1, 2$, raises the proposal and he is identified as the proposer, following which the ruler announces a new tax policy $(T_i^r = -\tau, T_j^r = \tau)$. Given (T_1, T_2) and $(T_i^r = -\tau, T_j^r = \tau)$, if citizen i, where $i \neq j$, accepts the proposal, the expected

continuation values for the citizens are given by:

$$V_i(d_i = 1|p_j = 1, B = 1, W = 0) = \frac{1}{1-\beta}, \quad (2.11)$$

$$V_j(p_j = 1|d_i = 1, B = 1, W = 0) = \frac{1+2\lambda}{1-\beta}. \quad (2.12)$$

While if citizen i declines the proposal, the continuation values for the citizens are given by:

$$V_i(d_i = 0|p_j = 1, B = 1, W = 0) = 1 + \tau + \frac{\beta(1-T_i)}{1-\beta}, \quad (2.13);$$

$$V_j(p_j = 1|d_i = 0, B = 1, W = 0) = 1 - \tau + \frac{\beta(1-T_j)}{1-\beta} + \frac{2\lambda}{1-\beta}. \quad (2.14)$$

If neither of the citizens raise the proposal, the continuation values for the citizens are given by:

$$V_i(d_i = d_j = 0|B = 1, W = 0) = \frac{1-T_i}{1-\beta}, \quad (2.15)$$

$$V_j(d_i = d_j = 0|B = 1, W = 0) = \frac{1-T_j}{1-\beta}. \quad (2.16)$$

In order to sustain (T_1, T_2), the ruler must ensure that given (T_1, T_2) and $(T_i^r = -\tau, T_j^r = \tau)$, neither of the citizens would raise the proposal or support it, which means that (T_1, T_2) is sustainable if and only if:

$$1 + \tau + \frac{\beta(1-T_i)}{1-\beta} \geqslant \frac{1}{1-\beta}, \quad (2.17)$$

and

$$\frac{1-T_i}{1-\beta} \geqslant 1-\tau+\frac{\beta(1-T_i)}{1-\beta}+\frac{2\lambda}{1-\beta}, \quad (2.18)$$

where $i = 1,2$. Inequalities (2.17) gives :

$$T_i \leqslant \frac{(1-\beta)\tau}{\beta}; \quad (2.19)$$

while inequalities (2.18) gives:

$$T_i \leqslant \tau-\frac{2\lambda}{1-\beta}, \quad (2.20)$$

where $\tau-\frac{2\lambda}{1-\beta} \geqslant 0$ if and only if $\lambda \leqslant \frac{\lambda^h}{2}$. This means that if the opposition organization chooses to reward the proposer, the kleptocracy is sustainable if and only if $\lambda \leqslant \frac{\lambda^h}{2}$; otherwise when $\lambda > \frac{\lambda^h}{2}$, the kleptocracy will break down. Given $\lambda \leqslant \frac{\lambda^h}{2}$, (T_1,T_2) is sustainable if and only if:

$$T_i \leqslant min\{\frac{(1-\beta)\tau}{\beta}, \tau-\frac{2\lambda}{1-\beta}\}. \quad (2.21)$$

It is easy to show $\frac{(1-\beta)\tau}{\beta} \geqslant \tau-\frac{2\lambda}{1-\beta}$ if and only if

$$\lambda \geqslant (\frac{2\beta-1}{\beta})[\frac{(1-\beta)\tau}{2}] \equiv \lambda^B, \quad (2.22)$$

where $0 < \lambda^B \leqslant \frac{\lambda^h}{2}$. Hence, if $\lambda^B \leqslant \lambda \leqslant \frac{\lambda^h}{2}$, we have: $T_i = \tau-\frac{2\lambda}{1-\beta}$; while if $\lambda < \lambda^B$, we have: $T_i = \frac{(1-\beta)\tau}{\beta}$. Therefore, when $\lambda^B \leqslant \lambda \leqslant \frac{\lambda^h}{2}$, the optimal sustainable tax policy is given by:

$$(T_1 = T_2 = \tau-\frac{2\lambda}{1-\beta}),$$

given which:

$$L(B=1,W=0) = -2(\tau-\frac{2\lambda}{1-\beta}). \quad (2.23)$$

When $\lambda < \lambda^B$, the optimal sustainable tax policy is given by:

$$(T_1 = T_2 = \frac{(1-\beta)\tau}{\beta}),$$

given which:

$$L(B=1,W=0) = -\frac{2(1-\beta)\tau}{\beta}. \quad (2.24)$$

Based on the above analysis, we can find that if the opposition organization chooses to reward the proposer, the kleptocracy is sustainable if and only if $\lambda \leqslant \frac{\lambda^h}{2}$, which is exactly the same to the case that it chooses to reward the citizen supporting the proposal. Therefore, if the opposition organization opts for the rewarding scheme, disregard whom is rewarded, the kleptocracy would be sustainable when $\lambda \leqslant \frac{\lambda^h}{2}$, and it will break down when $\lambda > \frac{\lambda^h}{2}$. What is more, if the opposition organization chooses to reward the proposers, no discriminatory tax policy would be sustained along the equilibrium path.

When $\lambda^B \leqslant \lambda \leqslant \frac{\lambda^h}{2}$, if the opposition organization chooses to reward the citizen supporting the proposal, denoted by $L(B=1,W=1)$, the minimum loss for the opposition organization is given by equation (2.7); while if it decides to reward the proposer, denoted by $L(B=1,W=0)$, the loss is given by equation (2.23). We can derive that given $\lambda^B \leqslant \lambda \leqslant \frac{\lambda^h}{2}$, we have: $(2.23) > (2.7)$ (please refer to Appendix II.3 for the proof). Therefore, when $\lambda \geqslant \lambda^B$, rewarding the proposer is the optimal strategy to minimize the loss function.

It is easy to show given $\beta > \frac{1}{2}$, we have: $\lambda^B < \frac{(2-3\beta)\tau}{4}$. Hence, when $\lambda < \lambda^B$, if the opposition organization chooses to reward the citizen supporting the proposal, its loss is given by equation (2.9); while if it chooses to reward the proposer, its loss is given by equation (2.24). It is obvious $(2.9) > (2.24)$, which means rewarding the citizen supporting the proposal, denoted by $L(B=1,W=1)$, is the optimal solution to the loss minimization problem.

PROPOSITION 2.1:

a) When $\lambda > \frac{\lambda^h}{2}$*, the MPE is given by:* $\{(B=1,W=1),.\}$ *or* $\{(B=1,W=0),.\}$*, given either of the above two, no tax policy is sustainable and the kleptocracy will break down;*

b) When $\lambda^B \leqslant \lambda \leqslant \frac{\lambda^h}{2}$*, where* $\lambda^B = (\frac{2\beta-1}{\beta})[\frac{(1-\beta)\tau}{2}]$*, there is a unique MPE given by:* $\{(B=1,W=0),(T_1^e = T_2^e = \tau - \frac{2\lambda}{1-\beta}), p_1 = p_2 = 0\}$

c) When $\lambda < \lambda^B$*, there is a unique MPE given by:* $\{(B=1,W=1),(T_1^e = T_2^e = \frac{(1-\beta)\tau-2\lambda}{\beta}), p_1 = p_2 = 0\}$

Based on the above analysis, we can infer that rewarding the citizens is more effective on constraining the kleptocracy, compared to punishing the citizens. If the opposition organization chooses the punishing scheme, the kleptocracy would be sustainable as long as $\lambda > (1-\beta)\tau$; while if it chooses the rewarding scheme, no matter rewarding the proposer or the one supporting the proposal, the kleptocracy would be sustainable if and only if $\lambda > \frac{\lambda^h}{2}$. This shows that the rewarding scheme can significantly decrease the survivability of the kleptocracy.

When $\lambda \leqslant \frac{\lambda^h}{2}$, the rewarding scheme could not help remove the ruler, however it would reduce the ruler's payoff along the equilibrium path. If the endowment of the opposition organization is relatively high, i.e., $\lambda^B \leqslant \lambda \leqslant \frac{\lambda^h}{2}$, the most effective strategy to reduce the rulers's payoff along the equilibrium path is to reward the proposer. While if the endowment of the opposition organization is relatively low, i.e., $\lambda < \lambda^B$, the most effective strategy is to reward the citizen supporting the proposal. What is more, rewarding the proposer will prevent the ruler from adopting a discriminatory tax policy.

2.4 Conclusion

This paper introduces a theoretical framework to examine the impact of the benevolent opposition organizations, like trade unions and religious institutions, on the strategy of divide-and-rule and the survivability of kleptocracies. This paper mainly contributes to the literature on the impact of trade unions and religious institutions on the democratization process in a state. By punishing the members supporting the kleptocrats, the benevolent opposition organizations may constrain the divide-and-rule policy and even help remove the kleptocrats. They may contribute to improving the welfare of their members both directly and indirectly.

What is more, the paper shows that compared to punishing the citizen group supporting the ruler, the benevolent opposition organizations more effectively constrain the kleptocracy through rewarding the citizen group proposing to remove the ruler or the citizen group supporting the proposal. Firstly, rewarding the citizens, compared to punishing the citizens, can significantly decrease the survivability of the kleptocracy. Secondly, when the opposition organization is not strong enough to help remove the ruler, it can reduce the ruler's payoff along the equilibrium path. Lastly, if the benevolent opposition organization chooses to reward the citizen group who initiates the challenge, this may prevent the ruler from adopting a discriminatory redistribution policy.

Furthermore, this paper suggests that a kleptocracy or dictatorship is more likely to prevail and persist in those states in which the regimes have more control over the allocation of various economic and social resources. This may help explain why North Korea, Burma, China, Cuba, Laos and Saudi Arabia are among the nineteen countries that boasts the lowest levels of political rights and civil liberties (see Table 1 in Appendix II.4).

3 Chapter III: Democratization, Revolution and International Interventions

Abstract

In a dictatorial society or a weakly institutionalized society, the ruler and the opposition vie for social surplus, while the international community decides whether or not to carry out military interventions in the case of a civil war, or whether or not to impose economic sanctions to promote the democratization process in this society. This paper develops a theoretical model for military interventions and economic sanctions respectively, formalizing the interaction between the international community, the opposition and the ruler. This paper shows that both military interventions and economic sanctions may help promote democratization process, while they may also induce the opposition to resort to a revolution to overthrow the regime, thus increasing the likelihood of a civil war and raising the uncertainties in the democratization process. Several analytical results in this paper may shed light on the questions about the efficacy and impacts of international interventions on the democratization process in a state. What is more, this paper introduces the military interventions in 2011 Libyan revolution and the economic sanctions against Burma as case studies.

3.1 Introduction

Following the end of World War II, promoting democratic governance around the world has been put in the agenda of the international community. In 1948, the United Nations adopted the Universal Declaration on Human Rights, and Article 21 of the Declaration states that: " The will of the people shall be the basis of the authority of government; this will shall be expressed in periodic and genuine elections... ".[16] International interventions could be classified into three main types: diplomatic

[16]See Universal Declaration of Human Rights, http://www.un.org/en/documents/udhr/index.shtml#a23

sanctions, economic sanctions and military interventions. Even though economic sanctions and military interventions are applied by the international community as the main apparatuses for democracy promotion, their effectiveness has long been disputed (see Peceny 1999a & 1999b, Meernik 1996 and Collins 2009). By introducing two theoretical models, this paper is going to examine the impacts of economic sanctions and military interventions on the process of democratization in a society.

Since the end of World War II, many military interventions have been taken by hegemonic actors, including the U.S. and other great powers, such as NATO and the United Nations (henceforth UN), in responding to grave violations of human rights in internal armed conflicts.[17] Examples include Yugoslavia in early 1990s (see Mayall 1996), Haiti in 1994, Liberia from 1991 to 1996 (see Huband 1998), Somalia in 1993 (see Mayall 1996) and Libya in 2011. While in many occasions, the grave violations of human rights, such as famine and carnage, result from different military/political factions' competition for political power, or the suppression on protests/demonstrations demanding more political or economic rights. Through changing the relative strength of different political forces, military interventions may have significant impact on the democratization process in a nation. For instance, in July 1994, in response to deteriorating human rights in Haiti following the military coup in September 1991,[18] the UNSC Resolution 940[19] authorized a US-led multinational military interventions, which successfully restored President Aristide to office and upheld democracy in Haiti (see Dinstein 2005).

Besides military interventions, economics sanctions are another major apparatus

[17]Conteh-Morgan (2001) states '...experience of the post-Cold War era, in particular, is characterized by centrifugal forces of violent ethnonationalism related to normative concerns of human rights and democratization that in turn spawn responses (for example peacekeeping interventions) from the international system. These interventions reflect a shift away from a strict adherence to the doctrine of state sovereignty and the principle of non-intervention'.

[18]The coup ousted President Jean-Bertrand Aristide, who was legitimately elected the Haitian general election eight month earlier. According to the 'Report on the situation regarding human rights in Haiti', following the coup, human rights situation in Haiti was extremely dangerous and vast majority of the Haitian people lived in desperately poor living conditions.

[19]U.N. Resolution for Invasion of Haiti". The New York Times. August 1, 1994.

for the international community. According to Hufbauer, Schott, Elliott and Oegg (2007) (Henceforth HSEO), there have been 187 episodes of economic sanctions since 1914, and 66 of which started after the end of Cold War. Vast majority of these sanctions are levied either by the USA or the international community led by the USA, such as the sanctions on Haiti (1991), Cambodia (1992), Guatemala (1993), Nigeria (1993) and Pakistan (1999) etc.. In 1993, after Guatemalan President Jorge Serrano dissolved Congress and announced he would rule by decree, the U.S. and the European Economic Community terminated all non-humanitarian aid and threatened sharp economic sanctions if democracy was not immediately restored. Under the threat of comprehensive sanctions, Serrano was ousted by the military supported by a wide range of sectors in Guatemalan society, and the democracy was restored within days following the coup (see Nelson and Eglinton 1996). Other successful episodes include the sanctions against Peru in 1992, Malawi in 1992 (see Posner 1995) and Serbia in 1998 (see De Krnjevic-Miskovic 2001) etc.. Nonetheless, on a large number of other occasions, international sanctions have failed to achieve their intended goals, examples including Ethiopia (1977), Argentina (1977), Paraguay (1977) and Sierra Leone (1977) (see HSEO). According to HSEO, economic sanctions are found to be effective in only 36 percent of all cases in the twentieth century.

International interventions by the hegemonic actors are usually carried out in the name of 'humanitarian intervention' or promoting democracy, and legalized and justified by various humanitarian or pro-democracy purposes. However behind the veil of these purposes, national interests of those sender countries play an important role in the decision on whether and when to intervene (see Conlon 2004). For example, Chomsky (1993) argues that the 1993 military intervention in Somalia was utilized by the U.S. government as a new pretext to justify continuing massive military budgets and government subsidies to the U.S. defense industry. Justin (2004) states: "...a pushover for the U.S. that would bring it prestige at little cost. That the U.S. pulled

out as soon as it began to lose domestic support for the action in Somalia confirms Chomsky's contention that humanitarian motives were not the real agenda. ...Once it became clear that the costs of intervening would be greater than the benefits, the U.S. pulled out".

For the sender states, there are two major categories of benefits that could be derived from engaging in international interventions. One is the instrumental value of international interventions, which refers to the benefits for the sender states by inducing the regime shift or policies changes in the target states through interventions, such as strengthening their political/military influence in the target states and improving diplomatic and business relationship with them. The other one is the symbolic value of interventions, which refers to the benefits for the sender states to declare their political standpoint regarding democratization issues and their resolution to defend their political values, through carrying out the interventions.

In the case of military interventions, the symbolic value plays a relatively trivial role in the utility function of the sender states, given the huge cost involved in military interventions.[20] While in the case of economic sanctions, their symbolic value could be a crucial part of their utility function. Galtung (1967) points out that even though economic sanctions may not make a receiving nation comply, they may still serve functions that are useful in the eyes of the sender nation(s). Eland (1995) claims that symbolic goals of economic sanctions are important and may even be vital, and 'Nations watch the behavior of other countries carefully for subtle clues about their intentions and resolve'. Whang (2011) argues that sanctions could be imposed by the policymakers to increase domestic support.

"There are no eternal friends or eternal enemies,...only eternal interests" (— Winston Churchill). International relations are subject to changes over the time:

[20]For example, the military intervention in Somalia between 1992 and 1993 costs the U.S. Government more than 7 billion USD (see Valentino 2011), and the cost of U.S. military operation in Libya in 2011 could be as high as 2 billion USD per day (see 'The Real Cost Of U.S. In Libya? Two Billion Dollars Per Day', Forbes, August 3, 2011.

friends today could turn into enemies tomorrow, while enemies today could become friends tomorrow. After Gaddafi came to power through the 1969 coup, US-Libyan relations became increasingly strained, because of Libya's support to international terrorism[21] and a series of international conflicts between them in the following three decades (see Davis 1990). In 1970s, the USA terminated official diplomatic relationship with Libya and designated Libya a 'state sponsor of terrorism'(see Haley 1984), and imposed or promoted a series of unilateral or the UN sanctions on Libya in 1980s and 1990s.[22] However because of Gaddafi government policy reversals on terrorism and weapons of mass destruction,[23] most of these sanctions were lifted in 2003 and 2004, and the USA normalized the relationship with Libya between 2004 and 2006.[24]

In a dictatorial society or other weakly institutionalized societies, the ruler and the opposition vie for social surplus, economic interests and political powers etc.. The international community decides whether or not to carry out military interventions in the case of a civil war, or whether or not to impose economic sanctions to promote the democratization process in this society. This paper develops a theoretical model for military interventions and economic sanctions respectively, formalizing the interaction between the international community, the opposition and the ruler.

This paper mainly explores the following four questions. Firstly, what is the impact of military interventions on the ways of democratization chosen by a nation,

[21]''Libya terrorism: the case against Gaddafi's (Ronald Bruce St John), http://www.recalibration.com/Libyan+terrorism%3A+the+case+against+Gaddafi.-a014151801

[22]In 1986, the U.S. imposed economic sanctions on Libya, due to the latter's continuous support to international terrorism, and launched an air strike against targets near Tripoli and Benghazi following the death of two Americans in the 1986 Berlin discotheque bombing (see http://www.global security.org/military/ops/e_Eldorado_canyon.ht). In 1992 and 1993, a series of UN resolutions (Resolution 731, 748 and 883) were passed to impose international pressure and sanctions on Libya, after two Libyan intelligence agents were indicted in 1991 by the U.S. and Scotland for the 1988 bombing of Pan Am flight 103 (see http://www.UN.org/documents/SC/res/1992/scres92.ht and http://www.UN.org/Docs/acres/1993/scres93.ht).

[23]On December 19, 2003, Gaddafi's regime announced its intention to stop the weapons of mass destruction and MTCR-class missile programs. From then on, it started to cooperate with the international community for the Prohibition of Chemical Weapons toward these objectives.

[24]From 2004, the U.S. began the process of normalizing bilateral relations with Libya, including terminating the applicability of the Iran and Libya Sanctions Act in 2004, re-establishing business connections, rebuilding diplomatic relations in 2004 and finally upgrading to a full embassy in 2006.

peaceful negotiation or revolution? Secondly, why does a civil war break out, despite that it could be costly to both the opposition and the authoritarian regime? Thirdly, what factors may affect the efficacy of economic sanctions on promoting democratization? Lastly, how do the policy changes demanded by the international community affect the ways of democratization in a society? The following are the main findings in this paper.

Firstly, the volatility of international relations may induce/encourage the opposition groups, who are relatively weak in the aspect of military strength, to resort to a revolution to remove the ruler from power. In the next period, if there would be significant improvements in the relation between the authoritarian regime and the international community, the cost of the military interventions would outweigh the gains from removing the ruler from power if the opposition is rather weak. As a result, the international community would not provide military support to the opposition, which would encourage the ruler to purge the opposition in the next period, instead of abiding by the surplus-sharing agreement between them. Given the expectation that the ruler would purge the opposition if they are weak, in the future period, it becomes the best strategy for the weak opposition to engage in a revolution to remove the ruler from power in the period when they could receive the support from military interventions.

Secondly, when the opposition is sufficiently strong, the democratization process in a nation would be less subject to the volatility of international relations, and it is more likely for this country to resort to peaceful negotiation to embark on democratization. The reason is that when the opposition are sufficient strong, the international community may still opt for engaging in military interventions, even though there would be improvements in the relation between the authoritarian regime and the international community. As a result, the authoritarian regime will have to face the consistent military pressures from both the domestic opposition groups and the in-

ternational community. This will force the regime to abide by the surplus-sharing agreement in the long run, thus facilitating the peaceful political transition to democracy.

Thirdly, economic sanctions could be levied to induce certain policy changes in favor of democratization or even a revolution against the ruler, if and only if the target state is sufficiently vulnerable to economic sanctions. What extent of policy changes could be induced depends on two key factors: the potential damage resulting from the sanctions and the strength of the opposition. Nonetheless, even if the target state is rather invulnerable to economic sanctions, in order to extract symbolic value of sanctions, the international community may still choose to impose the sanctions, at the cost of the welfare of ordinary citizens in the target states.

Lastly, both military interventions and economic sanctions may increase the likelihood of a revolution in a state. Base on the results derived in the model of military interventions, we can infer that the presence and inconsistency of military interventions could aggravate the commitment problems between an authoritarian regime and the opposition, thus leading to a civil war. If the international community demand policy changes that are not acceptable by the regime, this will intensify the conflict between the regime and the opposition, because of the 'collateral damage' on the opposition resulting from economic sanctions. Hence, if a country is sufficiently vulnerable to the sanctions, the international community may induce the opposition to engage in a revolution to overthrow the authoritarian regime through imposing economic sanctions.

This paper contributes to the literature examining the impacts of military interventions on the process of democratization in the target nations. Some researchers argue that military interventions increase liberalization in these states, examples including Peceny (1999a and 1999b), Hermann and Kegley (1996) and Meernik (1996).[25]

[25]Mark Peceny (1999a and 1999b) state that the U.S. military interventions, promoting "free and fair elections", have frequently resulted in remarkably resilient new democracies; Meernik (1996) suggests that probit analysis of the effects of military interventions on democratization generally support the

While the others state that military interventions may not necessarily promote the democratic process in these countries, examples including Pearson, Walker and Stern (2006) and Dimitrov (2005).[26] This paper contributes to the literature by introducing a theoretical framework to the study on the impacts of military interventions on the process of democratization. This paper suggests that the presence and inconsistency of military interventions could induce/encourage the relative weak opposition groups to engage in a risky revolution to overthrow an authoritarian regime. On one hand, this may facilitate the democratization process in a nation if the revolution successfully overthrows the dictatorial regime; While on the other hand, it reduces the likelihood of peaceful political transition to democracy in a nation.

What is more, this paper contributes to the literature examining the effectiveness of economic sanctions on democracy promotion or the welfare of the population in the target states, and help explain the recurrence of half-hearted and seemingly ineffective sanctions since World War II. Empirical researches present significant differences in the efficacy of economic sanctions between the Cold War period and the post Cold War era.[27] The researches carried out in the Cold War period usually indicate that economic sanctions in the Cold War period are largely futile in promoting democratization in target countries. Examples includes Losman (1979), Schreiber (1973) and Galtung (1967). While many researches, examining the efficacy of sanctions in the post Cold War era, present more positive assessments, such as Cortright and Lopez (2000), Rogers (1996) and Elliott (1992). This paper shows that economic sanctions could be levied to induce certain policy changes in favor of democratization

notion that the U.S. military interventions do lead to increased democratization.

[26]Pearson, Walker and Stern (2006) state that when factors, such as human, political, and civil rights, are used as measures of democratic success, military interventions do not clearly emerge as an agent for democratic transformation; Dimitrov (2005) argues that international interventions tend to sidestep and marginalize the local institutions and political process, thus undermining the sustainability of the achieved improvements on the process of democratization.

[27]Collins (2009) argues that the increase in the efficacy of economic sanctions in the post Cold War era is mainly due to the change in the shift from bipolar international system to the Unipolar one, because 'the structural attributes of the (unipolar) system presented a more benign environment for the sanctions efforts of the United States'.

or even a revolution, if and only if this country is sufficiently vulnerable to the sanctions, and the more vulnerable to the sanctions, the more significant policy changes could be induced. However, even if the target state is invulnerable to economic sanctions, the international community may still impose the sanctions in order to extract symbolic value of sanctions, and some of the seemingly failed episodes of sanctions might actually be a strategic success for the sender states.

Furthermore, this paper contributes to the literature studying the "inefficiency puzzle": why does the bargaining over the terms of peaceful settlement break down, despite that the fighting is costly? This question has framed many researches on inter-state and civil war, and the explanations fall into two main streams: one is incomplete/asymmetric information, and the other one is commitment problem. The first stream argues that the breakout of a war is mainly due to the incomplete information or the asymmetric information between the players, such as Fearon (1995) and Powell (2004a).[28] The second stream points out that a war may result from the commitment problems between the parties involved, such as Acemoglu and Robinson (2001), Fearon (2007) and Powell (2006).[29] This paper suggests that economic sanctions or military interventions may contribute to a revolution in a state through aggravating the conflicts between the opposition and the regime.

This paper proceeds as follows. Section 3.2 develops the model of military interventions; Section 3.3 develops the model of economic sanctions; Section 3.4 introduces the case study; Section 3.5 Concludes.

[28]Fearon (1995) argues that a war may result from the private information about resolve or capability and the incentives to misrepresent these; Powell (2004a) suggests a way to empirically distinguish wars arising from these the asymmetric information the about the cost of fighting or the distribution of power, and shows that the equilibrium dynamics of informational accounts of war may be sensitive to the bargaining environment through which information is conveyed.

[29]Powell (2006) points out two major limitations inherent to the first stream literature: i) a poor account of prolonged conflict; and ii) a bizarre reading of the history of some cases, and argues that the war may result from large and rapid shifts in the distribution of powers, because of first-strike or offensive advantages; Acemoglu and Robinson (2001) state that the poor may resort to a revolution and the rich may launch a coup, in order to ensure higher payoff in the next periods, because neither party could make a credible commitment on the redistribution in the next periods; Fearon (2007) asserts that fighting may be used by the government to screen out the weak type of rebel groups, when the latter's types are unknown to the former.

3.2 A Model of Military Interventions

In an authoritarian society, time runs in infinite discrete periods. In each period, the society is endowed with one unit of surplus, such as political power and economic resources. There are two agents, the ruler and the opposition, contesting for the surplus. They may bargain over the allocation of the surplus between them, or resort to a war to take possession of the surplus. If a war breaks out in a period, the international community will choose whether or not to carry out military interventions. It is assumed that if the international community chooses not to carry out military interventions in the case of a war, denoted by $M = 0$, no matter who wins the war, there is neither cost nor surplus for the international community.

However, if the international community chooses to engage in military interventions in period t, denoted by $M = 1$, supporting the opposition to remove the ruler from power, the surplus for the international community in each period is zero if the ruler wins the war. While if the opposition win, the international community may receive μ_t units of surplus in each of the following periods from period t onwards. Here, μ_t is stochastic before the society switches to a democracy, denoted by $S_t = D$. This captures the notion that the international relations are volatile, and the international community's attitude towards an authoritarian regime may change over the time. In particular, it is assumed that μ_t takes two values,

$$\mu_t = \begin{cases} \mu^h & \text{with probability } \pi \\ \mu^l & \text{with probability } 1-\pi \end{cases}$$

where $\mu^h > \mu^l \geqslant 0$ and $0 < \pi < 1$. When $\mu = \mu^h$, there is relatively strong hostility between the authoritarian regime and the international community, and the later may derive relatively more benefits from removing the ruler. When $\mu = \mu^l$, there is relatively weak hostility between them, and the international community may derive less benefits. The value of π reflects the level of consistency in the international

community's attitude towards the ruler, and the larger the value of π, the more the consistency.

Without military interventions, P_r and P_g represent the winning probability of the ruler and that of the opposition in a war respectively. Let $P_g = p$, then $P_r = 1 - p$. It is assumed that $p \leqslant \frac{1}{2}$, which captures the notion that in an authoritarian society, the ruler usually has military advantages over the opposition without the presence of military interventions. In a period with $\mu_t = \mu^h$, following the breakout of a war, if the international community intervenes and provides military support to the opposition, this will increase the winning probability of the opposition by ϕ, where $0 < \phi \leqslant 1 - p$, which represents the strength of military interventions. In this base model, it is assumed that ϕ is exogenously determined, and given p, the cost of intervention corresponding to ϕ is given by $f(p,\phi) = (1-p)C(\phi)$, which implies that given a certain value of ϕ, the weaker the opposition, the higher the cost of military interventions. It is assumed that $C^{'}(\phi) > 0$ and $C^{''}(\phi) > 0$ for any $\phi \in (0, 1-p)$, and $C(0) = 0$ and $C(1-p) = 1$.

If a war breaks out in a period, $(1-\zeta)$ fraction of the surplus, where $\zeta \geqslant 0$, will be destroyed in this period. The loser in the war will lose everything forever, while the winner will seize all the surplus in the following periods. The discounted total amount of surplus for the winner could be denoted by: $\frac{m}{1-\beta}$, where $m = (1-\beta)\zeta + \beta$. Here, m represents the average surplus entitled to the winner in each period following a war, which is a weighted average between ζ and 1 by the discount factor β. If the winner is the opposition, the society switches from an authoritarian regime, denoted by $S_t = (K, \mu_t)$, to a democracy; while if the ruler wins, the society switches to an autocracy, denoted by $S_t = A$, in which there is no opposition group challenging the ruler. It is assumed that once the society switches to a democracy or an autocracy, it will remain so forever.

In a period with $\mu_t = \mu^h$, the opposition chooses to engage in a revolution or

raise a proposal for the allocation of the surplus. If the opposition chooses to raise a proposal θ, i.e., θ fraction of surplus allocated to themselves, and it is accepted, then a coalition government will be established, and the society enters the state of political transition to democracy, denoted by $S_t = (T, \mu_t)$. A war will break out if the opposition chooses to engage in a revolution, denoted by $R = 1$, or the ruler decides to purge, denoted by $G = 1$.

In a period with $\mu_t = \mu^l$, the ruler decides whether to abide by the agreement θ, or to purge the opposition. If the ruler chooses to abide by the agreement, denoted by $G = 0$, the players will divide the surplus according to the agreement, and the society will switch to a democracy, denoted by $S_t = D$, from the status of political transition. While if the ruler decides to purge the opposition, denoted by $G = 1$, this will lead to a war. If the opposition wins the war, the society will switch to a democracy and they will receive all the remaining follow of the surplus; while if the ruler wins, he will seize all the remaining follow of surplus.

All the agents have identical preferences represented by $E_t[\sum_{j=0}^{\infty} \beta^j C_{t+j}^i]$, for $i = r, g, s$. where r, g and s represent the ruler, the opposition and the international community respectively. Here, C_t^i is the amount of surplus taken by agent i at time t and E_t is the expectations operator conditional on all information available at time t. The following is the timing of events in a period with $S_{t-1} = (K, \mu_t)$ or (T, μ_t): (please refer to Appendix III.1 for the Game Tree)

(1) The state μ_t is revealed.

(2) If $\mu_t = \mu^h$, at the beginning of the period, the opposition decides whether or not to engage in a revolution. If they choose to do so, i.e., $R = 1$, then a war breaks out. If $R = 0$, then the opposition raises a proposal θ. Observing the proposal, the ruler decides whether to accept the proposal or to purge the opposition. If no purge is carried out, i.e., $G = 0$, then the proposal is implemented in the current period, and the society switches to the status of political transition, denoted by $S_t = (T, \mu_t)$;

(3) If $\mu_t = \mu^l$, at the beginning of the period, the ruler decides whether to abide by the agreement or to purge the opposition. If he chooses to purge, i.e., $G = 1$, then a war breaks out. If the ruler chooses to abide by the agreement, i.e., $G = 0$, the agreement sustains in this period, and the society switches to a democracy, denoted by $S_t = D$. .

(4) If a war breaks out in a period, the international community decides whether or not to carry out military interventions. If there are military interventions, denoted by $M = 1$, the opposition will win the war with probability $(p + \phi)$, and the ruler will win the war with probability $(1 - p - \phi)$. While if there is no intervention, denoted by $M = 0$, the winning probabilities are given by p and $(1 - p)$ for the opposition and the ruler respectively. If the opposition wins the war, the society switches to a democracy, denoted by $S_t = D$; while if the ruler wins, the society switches to an autocracy, denoted by $S_t = A$.

In this section, the state S is one of D, A, (K, μ_t) or (T, μ_t), where $\mu_t = \mu^h$ or $\mu_t = \mu^l$. We can simplify (K, μ^h) as K^h, (K, μ^l) as K^l, (T, μ^h) as T^h and (T, μ^l) as T^l. The strategy of the ruler is denoted by $\sigma^r(S \mid \theta)$, which depends on the state S and the actions taken by the opposition when $S = (K, \mu^h)$ or $S = (T, \mu^h)$. This strategy determines the actions of the ruler G when $S = (K, \mu_t)$, The strategy of the opposition is denoted by $\sigma^g(S)$, which is a function of the state S. This strategy determines the actions of the opposition $\{R, \theta\}$ when $S = (K, \mu^h)$ or $S = (T, \mu^h)$. The strategy of the international community denoted by $\sigma^s(S \mid R, G)$, which depends on the state S and the action taken by the opposition and the ruler. A pure strategy Markov Perfect Equilibrium (MPE) is a strategy combination denoted by $\{\hat{\sigma}^g(S), \hat{\sigma}^r(S \mid \theta\}, \hat{\sigma}^s(S \mid R, G)\}$, such that $\hat{\sigma}^g$, $\hat{\sigma}^r$ and $\hat{\sigma}^s$ are the best response to each other for all possible states.

Analysis

Suppose a war breaks out in a period with $\mu_t = \mu^h$, if the international community chooses to carry out military interventions following a war, the expected continuation value for them is given by:

$$V^s(M=1|K^h) = (p+\phi)\frac{\mu^h}{1-\beta} - (1-p)C(\phi). \quad (1.1)$$

It is clear that in period t, the international community will carry out military interventions if and only if $(p+\phi)\frac{\mu^h}{1-\beta} \geqslant (1-p)C(\phi)$, which gives:

$$\mu^h \geqslant \frac{(1-\beta)(1-p)C(\phi)}{p+\phi} \equiv \mu^*, \quad (1.2)$$

where μ^* is the threshold value determining whether or not the international community is going to carry out military interventions. It is clear that:

$$\frac{\partial \mu^*}{\partial p} = -[\frac{(1-\beta)C(\phi)(p+\phi)+(1-\beta)(1-p)C(\phi)}{(p+\phi)^2}] < 0,$$

which shows that μ^* is monotonically decreasing on p, i.e the increase in the strength of the opposition will decrease this threshold value. When $p=0$, we have $\mu^* = \frac{(1-\beta)C(\phi)}{\phi}$, and when $p=\frac{1}{2}$, we have $\mu^* = \frac{(1-\beta)C(\phi)}{1+2\phi}$. To simplify the analysis without affecting the main analytical results, I introduce the following assumption:

ASSUMPTION 1: $\mu^h > \frac{(1-\beta)C(\phi)}{\phi} > \mu^l$

Given the above assumption, we have $\mu^h > \mu^*$, thus it is a dominant strategy for the international community to carry out military interventions in a period with $\mu_t = \mu^h$, given any value of p. Hence, in a period with $\mu_t = \mu^h$, if the opposition chooses to engage in a revolution, or the ruler declines a proposal θ raised by the

opposition, the following are the expected continuation values from the war for the opposition and the ruler respectively:

$$V^g(R=1 \mid K^h) = V^g(\theta \mid K^h, G=1)$$

$$= \frac{(p+\phi)m}{1-\beta}; \quad (1.3)$$

$$V^r(.|R=1, K^h) = V^r(G=1 \mid K^h, \theta)$$

$$= \frac{(1-p-\phi)m}{1-\beta}. \quad (1.4)$$

While if a proposal θ is raised by the opposition and accepted by the ruler, thus a coalition, government and the society switches to the state of transition. The following would be the Bellman equations for the opposition and the ruler respectively:

$$V^g(\theta \mid K^h, G=0) = \theta + \beta[\pi V^g(T^h) + (1-\pi)V^g(T^l \mid \theta)]; \quad (1.5)$$

$$V^r(G=0 \mid K^h, \theta) = 1-\theta + \beta[\pi V^r(T^h) + (1-\pi)V^r(T^l \mid \theta)]. \quad (1.6)$$

In a period with $\mu_t = \mu^l$, the international community will carry out military interventions if and only if $\mu^l \geqslant \mu^*$. It is obvious that if the $\mu^l < \frac{(1-\beta)C(\phi)}{1+2\phi}$, i.e., when the benefit from removing the ruler from power is rather small, the international community will not carry out military interventions, no matter how strong the opposition is. To simplify the analysis without affecting the main analytical results, I introduce the following assumption:

ASSUMPTION 2:$\mu^l \geqslant \frac{(1-\beta)C(\phi)}{1+2\phi}$.

Since μ^* is monotonically decreasing on p, and $\frac{(1-\beta)C(\phi)}{1+2\phi} \leqslant \mu^l < \frac{(1-\beta)C(\phi)}{\phi}$, it is clear that there must exist a unique $p^* \leqslant \frac{1}{2}$ such that:

$$\mu^*(p^*) = \frac{(1-\beta)(1-p^*)C(\phi)}{p^*+\phi} = \mu^l \quad (1.7)$$

where p^* is the threshold value determined whether the international community is going to intervene. If $p \geqslant p^*$, i.e., when the opposition is strong enough, the international community will intervene; while if $p < p^*$, i.e., when the opposition is relatively weak, the international community will not. Therefore in a period $\mu_t = \mu^l$, when $p \geqslant p^*$, if the ruler chooses to purge the opposition, the expected continuation values for the ruler and the opposition are exactly the same to their counterparts in the period with $\mu_t = \mu^h$. Hence, when $p \geqslant p^*$, if a proposal θ is accepted by the ruler in a period with $\mu_t = \mu^h$, the ruler will abide by it in a period with $\mu_t = \mu^l$, leading to a peaceful transition to democracy.

Therefore, when $p \geqslant p^*$, if the opposition chooses to raise a proposal θ in a period with $\mu_t = \mu^h$ and it is accepted by the ruler, then the expected continuation values for the opposition and the ruler are given by the following equations respectively:

$$V^g(\theta \mid K^h, G=0, p \geqslant p^*) = \frac{\theta}{1-\beta}; \quad (1.8)$$

$$V^r(G=0 \mid K^h, \theta, p \geqslant p^*) = \frac{1-\theta}{1-\beta}. \quad (1.9)$$

Therefore in a period with $\mu_t = \mu^h$, when $p \geqslant p^*$, if the opposition chooses to raise a proposal θ, the problem for the ruler is given by:

$$\underset{G\in\{0,1\}}{Max}\ V^r(G \mid K^h, p \geqslant p^*) = GV^r(G=1 \mid K^h, \theta) + (1-G)V^r(G=0 \mid K^h, \theta, p \geqslant p^*)$$

It is clear that $V^r(G=0 \mid K^h, \theta, p \geqslant p^*) \geqslant V^r(G=1 \mid K^h, \theta)$ if and only if:

$$\theta \leqslant 1-(1-p-\phi)m \equiv \bar{\theta}, \quad (1.10)$$

where $0 < \bar{\theta} < 1$. Inequality (1.10) means when $p \geqslant p^*$, the ruler will choose to accept a proposal if $\theta \leqslant \bar{\theta}$ in a period with $\mu_t = \mu^h$; otherwise, he will opt for purging the opposition. Therefore, it is obvious when $p \geqslant p^*$, the optimal θ is given by: $\theta^* = \bar{\theta}$. Substitute θ^* into (1.8) and (1.9), we have:

$$V^g(\bar{\theta} \mid K^h, G=0, p \geqslant p^*) = \frac{1-(1-p-\phi)m}{1-\beta}; \quad (1.11)$$

$$V^r(G=0 \mid K^h, \bar{\theta}, p \geqslant p^*) = \frac{(1-p-\phi)m}{1-\beta}. \quad (1.12)$$

Hence, in a period with $\mu_t = \mu^h$, when $p \geqslant p^*$, the problem for the opposition regarding whether or not to engage in a revolution is given by:

$$\underset{R\in\{0,1\}}{Max}\ V^g(R \mid K^h) = RV^g(R=1 \mid K^h) + (1-R)V^g(\bar{\theta} \mid K^h, G=0, p \geqslant p^*)$$

It is easy to show: $V^g(\bar{\theta} \mid K^h, G=0, p \geqslant p^*) > V^g(R=1 \mid K^h)$, which means that when $p \geqslant p^*$, it is a dominant strategy for the opposition to raise the proposal $\bar{\theta}$ instead of engaging in a revolution, and the ruler will accept and abide by the proposal in all the periods.

PROPOSITION 1.1:

When the opposition is strong enough, i.e., when $p \geqslant p^*$, a coalition government will be established according to $\bar{\theta}$ in a period with $\mu_t = \mu^h$, thus the society enters the state of political transition, and will switch to a democracy in a period with $\mu_t = \mu^l$. When $p \geqslant p^*$, given any values of π and ϕ, there is a unique MPE given by:

$$\{(R = 0, \theta = \bar{\theta}, G = 0 \mid K^h); (G = 0; M = 1 \mid T^l)\}$$

where $\bar{\theta} = 1 - (1 - p - \phi)m$.

The above proposition shows that when the opposition is sufficiently strong, the society will embark on peaceful and successful political transition to democracy. We have examined in the above the case that $p \geqslant p^*$. Now let's turn to the case that $p < p^*$, i.e., when the opposition is relatively weak. When $p < p^*$, the international community will not carry out military interventions in a period with $\mu_t = \mu^l$. Therefore, if the ruler chooses to purge the opposition in period $\mu_t = \mu^l$, the following are the expected continuation values for the opposition and the ruler respectively:

$$V^g(T^l, G = 1, M = 0,) = \frac{pm}{1 - \beta} \equiv W_g^l; \quad (1.13)$$

$$V^r(G = 1 \mid T^l, M = 0,) = \frac{(1 - p)m}{1 - \beta} \equiv W_r^l. \quad (1.14)$$

It is clear that when $p < p^*$, the ruler will choose to purge if and only if $(1.14) \geqslant (1.9)$, which gives:

$$\theta \geqslant 1 - (1 - p)m \equiv \underline{\theta}, \quad (1.15)$$

where $0 < \underline{\theta} < 1$. When $p < p^*$, conditional on the expectation that the ruler

will choose to purge in a period with $\mu_t = \mu^l$, if the opposition opts for raising a proposal θ in a period with $\mu_t = \mu^h$, and it is accepted by the ruler, the following are the continuation values for the opposition and the ruler respectively:

$$V^g(\theta \mid K^h, G = 0, p < p^*) = \frac{(1-\beta)\theta + \beta(1-\pi)pm}{(1-\beta\pi)(1-\beta)}; \quad (1.16);$$

$$V^r(G = 0 \mid K^h, \theta, p < p^*) = \frac{(1-\beta)(1-\theta) + \beta(1-\pi)(1-p)m}{(1-\beta\pi)(1-\beta)}. \quad (1.17).$$

It is clear that in a period with $\mu_t = \mu^l$, if the optimal strategy for the ruler is to purge the opposition, he would choose to accept a proposal in a period with $\mu_t = \mu^h$, as long as $(1.17) \geqslant (1.4)$, which gives:

$$\theta \leqslant 1 - \frac{m[(1-p)(1-\beta) - \phi(1-\beta\pi)]}{1-\beta} \equiv \hat{\theta}, \quad (1.18)$$

where $\hat{\theta} > \underline{\theta}$. It is clear that $\frac{\partial \hat{\theta}}{\partial p} = m > 0$, which means that $\hat{\theta}$ is monotonically increasing on p, i.e., the stronger the opposition, the more surplus the ruler is willing to concede to them, in order to prevent a revolution. It is obvious that if the opposition chooses to raise a proposal when $p < p^*$, the optimal proposal is given by:

$$\theta^* = max\{1, \hat{\theta}\}.$$

This implies that given the proposal θ^*, the ruler will opt for a purge in a period with $\mu_t = \mu^l$. It is clear that $\hat{\theta} > 1$ if and only if:

$$\phi > \frac{(1-\beta)(1-p)}{1-\beta\pi} = \hat{\phi}, \quad (1.19)$$

where $0 < \hat{\phi} < 1 - p$. Thus if $\phi > \hat{\phi}$, i.e., the strength of military interventions is relatively strong, we have $\hat{\theta} > 1$, thus $\theta^* = 1$; while if $\phi \leqslant \hat{\phi}$, i.e., the strength of

military interventions is relatively weak, we must have $\hat{\theta} \leqslant 1$, thus $\theta^* = \hat{\theta}$. Given $\phi > \hat{\phi}$, substituting $\theta^* = 1$ into equation (1.16), we have:

$$V^g(\theta^* = 1 \mid K^h, G = 0, S = T, p < p^*) = \frac{(1-\beta) + \beta(1-\pi)pm}{(1-\beta\pi)(1-\beta)}. \quad (1.20)$$

It is clear that when $p < p^*$, the opposition will choose to raise a proposal $\theta = 1$ if and only if $(1.20) \geqslant (1.3)$, which gives:

$$\pi \geqslant \frac{\phi m - (1-\beta)(1-pm)}{\beta\phi m} \equiv \pi^*, \quad (1.21)$$

where $\pi^* < 1$. We can derive that $\pi^* \leqslant 0$ if and only if: i) $\zeta \leqslant \zeta^*$, ii) $p < \hat{p}$, and iii) $\beta < \hat{\beta}$, where $\zeta^* = \frac{(1-\beta)(1-p\beta)-\phi\beta}{[\phi+(1-\beta)p](1-\beta)}$, $\hat{p} = \frac{(1-\beta)-\phi\beta}{\beta(1-\beta)}$ and $\hat{\beta} = \frac{1}{1+\phi}$. Thus when $\phi > \hat{\phi}$, if $\zeta \leqslant \zeta^*$, $p < \hat{p}$ and $\beta < \hat{\beta}$, we have $\pi^* \leqslant 0$ and $(1.20) \geqslant (1.3)$, which implies that it is a dominant strategy for the opposition to raise the proposal $\theta^* = 1$.

PROPOSITION 1.2:

When $\phi > \hat{\phi}$, if $\zeta \leqslant \zeta^*$, $p < \hat{p}$ and $\beta < \hat{\beta}$, or $\zeta < \zeta^*$, $p \geqslant \hat{p}$ or $\beta \geqslant \hat{\beta}$, but $\pi \geqslant \pi^*$, there is a unique MPE given by:

$$\{(R = 0, \theta = 1, G = 0, . \mid K^h); (G = 1, M = 0 \mid T^l)\};$$

While if $\zeta < \zeta^*, p \geqslant \hat{p}$ or $\beta \geqslant \hat{\beta}$, but $\pi < \pi^*$, there is a unique MPE given by:

$$\{(R = 1, M = 1 \mid K^h); (G = 1, M = 0 \mid T^l)\}.$$

Conditional on the expectation that the optimal strategy for the ruler is to purge the opposition in a period with $\mu_t = \mu^l$, if $\zeta \leqslant \zeta^*$, $p < \hat{p}$ and $\beta < \hat{\beta}$, the opposition would opt for raising the proposal $\theta^* = 1$ in a period with $\mu_t = \mu^h$ along the

equilibrium path; While if $\zeta < \zeta^*, p \geqslant \hat{p}$ *or* $\beta \geqslant \hat{\beta}$*, when the consistency of military interventions is relatively high, i.e.,* $\pi \geqslant \pi^*$*, the best strategy is to raise the proposal* $\theta^* = 1$*; when the consistency is relatively low, i.e.,* $\pi < \pi^*$*, the optimal strategy is to launch a revolution.*

The above analysis shows that when the strength of military interventions is relatively strong, i.e., $\phi > \hat{\phi}$, conditional on the expectation that the optimal strategy for the ruler is to purge the opposition in a period with $\mu_t = \mu^l$, the opposition would opt for raising the proposal $\theta^* = 1$ in a period with $\mu_t = \mu^h$ along the equilibrium path, if all of the following three constraints are satisfied: i) the cost of a war is relatively high, i.e., $(1-\zeta) > (1-\zeta^*)$; ii) the strength of the opposition is sufficiently weak, i.e., $p < \hat{p}$; iii) the opposition is relatively impatient, i.e., $\beta < \hat{\beta}$. While if any one of these three constraints is violated, whether or not the opposition would opt for the proposal $\theta^* = 1$, depends on the level of consistency of military interventions.

In this society, the ruler is not able to make a credible commitment of redistribution in the following periods, thus the maximum amount of surplus that could be conceded by the ruler, is the total surplus in the current period. When $p < p^*$, the opposition is not strong enough to ensure that in the following periods, the ruler will abide by the agreement made in the current period, as a result, the ruler will carry out a purge in the period with $\mu_t = \mu^l$.

If the consistency of military interventions is relatively low, i.e., $\pi < \pi^*$, thus the probability of a purge in the following periods is high, the opposition will opt for a revolution even if the ruler agree to concede all the surplus in the period with $\mu_t = \mu^h$. While if the consistency of military interventions is relatively high, i.e., $\pi \geqslant \pi^*$, thus the probability of a purge is low, this would induce the opposition to refrain from engaging in a revolution, given the high payoff in a period with $\mu_t = \mu^h$. This implies that when the strength of military interventions is relatively strong, i.e.,

when $\phi > \hat{\phi}$, while the consistency of military interventions is relatively high, this may induce the opposition to adopt the 'opportunist strategy': establishing a coalition government with the ruler, despite the expectation that they would be purged by the ruler in a period with $\mu_t = \mu^l$.

In the above part, we have discussed the case that $\phi > \hat{\phi}$. Now let's turn to the case that $\phi \leqslant \hat{\phi}$, i.e., the strength of military interventions is relatively weak. When $\phi \leqslant \hat{\phi}$ and $p < p^*$, the optimal proposal for the opposition is given by $\theta^* = \hat{\theta}$. It is clear:

$$\frac{\partial \hat{\theta}}{\partial \pi} = -\frac{m\phi\beta}{1-\beta} < 0,$$

which shows that $\hat{\theta}$ is monotonically decreasing on π. This implies that in order to prevent the opposition from engaging in a revolution, the ruler is willing to concede more surplus to them when the consistency of military interventions is lower. Substituting $\theta^* = \hat{\theta}$ into equation (1.16), we have:

$$V^g(\theta^* = \hat{\theta} \mid K^h, G = 0, p < p^*)$$

$$= \frac{(1-\beta) - m[(1-p)(1-\beta) - \phi(1-\beta\pi)] + \beta(1-\pi)pm}{(1-\beta\pi)(1-\beta)}. \quad (1.22);$$

We can derive: $(1.22) \geqslant (1.3)$ (please refer to Appendix III.3 for the proof), which implies that when $p < p^*$ and $\phi \leqslant \hat{\phi}$, it is a dominant strategy for the opposition to raise the proposal $\theta^* = \hat{\theta}$.

PROPOSITION 1.3:

When both the strength of the opposition and that of military interventions are sufficiently weak, i.e., $p < p^*$ and $\phi \leqslant \hat{\phi}$, given whatever level of consistency in mil-

itary interventions, the ruler can always concede sufficient surplus to the opposition to prevent them from engaging in a revolution, when there is the threat of military interventions; while he will opt for purging the opposition when the threat vanishes. When $p < p^*$ and $\phi \leqslant \hat{\phi}$, There is a unique MPE given by:

$$\{(R = 0, \theta^* = \hat{\theta}, G = 0, M = 1 \mid K^h); (G = 1, M = 0 \mid T^l)\},$$

where $\hat{\theta} = 1 - \frac{m[(1-p)(1-\beta)-\phi(1-\beta\pi)]}{1-\beta}$.

According the above analysis, when the opposition is relatively weak, i.e., $p < p^*$, the ruler will purge the opposition in a period with $\mu_t = \mu^l$. However, if the strength of military interventions is relatively weak, i.e., $\phi \leqslant \hat{\phi}$, along the equilibrium path, the opposition always chooses to raise the proposal $\theta^* = \hat{\theta}$ in a period with $\mu_t = \mu^h$, disregard the level of consistency in military interventions. The higher the level of consistency, the more will be conceded by the ruler. Based on the above analysis, we may infer that a revolution is less likely to break out when both the strength of the opposition and that of military interventions are relatively weak.

3.3 A Model of Economic Sanctions

''*When military action is impossible for one reason or another, and when doing nothing is seen as tantamount to complicity, then something has to be done to express morality, something that at least serves as a clear signal to everyone that what the receiving nation has done is disapproved of. If the sanctions do not serve instrumental purposes, they can at least have expressive functions.*''*—Galtung (1967)*

As an alternative apparatus of international interventions, economic sanctions usually aim to induce and secure pro-democracy policy changes that are specified by the international community.[30] Comparing economic sanctions with military in-

[30]For example, the sanctions on South Africa in 1962 intended to compel the abolition of the

terventions, their differences mainly lie in the following four aspects. Firstly, unlike military interventions, economic sanctions may serve as an active apparatus to induce policy changes in favor of democratization in a society, disregard whether the sanctions are welcome by any individuals or groups within this society. Secondly, compared to military interventions, it is much more difficult for economic sanctions to avoid 'collateral damage' on the opposition and the ordinary civilians, even though economic sanctions may intend to target at some individuals or political groups.[31] Thirdly, compared to military interventions, economic sanctions are more frequently introduced by the sender states to exert long-term pressure on the target countries, in order to induce some pro-democracy policy changes.[32] Lastly, unlike military interventions, economic sanctions could be suspended or reimposed in a period under the discretion of the sender countries.

Considering the above significant differences between economic sanctions and military interventions, this section is going to introduce a new framework to examine the impact of economic sanctions on the interaction between the opposition and the ruler. This society is endowed with one unit of surplus in each period: λ unit of the surplus is allocated to the opposition, while the rest $1-\lambda$ is seized by the ruler. In each period, the international community may decide whether or not to urge the ruler to embarking on democratization, by threatening to impose economic sanctions on this society. If they choose not to, denote this by $H=0$; while if they choose to do so, denoted by $H=1$, they will request the ruler to concede δ unit surplus to the opposition, where $0<\delta\leqslant 1-\lambda$. If the ruler accepts the proposal δ in a period, the

apartheid system; while the sanctions against Peru in 1992 aims to force Peruvian President Alberto Fujimori to restore and protect the legislative and judicial branches in the country.

[31]For example, in response to the military coup in Haiti in 1991, the OAS employed a wide array of economic sanctions, intending to force the Haitian military to restore President Aristide. But the sanctions turned out to be devastating to many ordinary Haitian citizens and the poorest population, while many of them are among Aristide's strongest supporters (see Acevedo 1993)

[32]The duration of sanctions varies dramatically in different episodes. Some sanctions are revoked shortly after they are levied, such as those imposed on Peru in 1992, Guatemala in 1993 and Malawi in 1992. However, in many other episodes, they last for long periods, examples including those on Iraq (1990-2003), Cuba (1960-ongoing), Chile (1975-90) and Libya (1978-2004) (see HSEO).

sanctions will not be enforced, and there would no cost for the international community. The benefit to the international community is given by $\phi\delta$ in the corresponding period, where $0 < \phi \leqslant 1$. Here, ϕ parameterizes the relationship between the international community and the opposition: the higher the value of ϕ, the closer the relationship.

After the ruler declines the proposal δ, if he is removed from power in revolution, the payoff to the international community in each period is given by $\phi(1-\lambda)$. While if he remains in power at the end of the period, the sanctions will be enforced at the cost of ω, and will destroy $(1-\eta_t)$ proportion of the surplus allocated to each of the players, where $0 < \eta_t < 1$. The symbolic value of enforcing the sanctions is denoted by Υ, where $\Upsilon > 0$. Here, I introduce a tie-break assumption that for the international community, if the payoff from introducing the threat of sanctions is equal to that from not introducing it, the ruler will always opt for the latter. In this section, η_t measures how vulnerable this society is to the economic sanctions, and in particular, it is assumed that η_t takes two values,

$$\eta_t = \begin{cases} \eta^l & \text{with probability } \pi \\ \eta^h & \text{with probability } 1-\pi \end{cases}$$

where $0 < \eta^l < \eta^h < 1$. If $\eta_t = \eta^l$, it implies that the economy is rather vulnerable to the economic sanctions in this period. While if $\eta_t = \eta^h$, it means it is less vulnerable to the economic sanctions. If a war breaks out, P_r and P_g represent the winning probability of the ruler and that of the opposition respectively. It is assumed $P_g = p$ and $P_r = 1-p$, where $\frac{1}{4} < p < \frac{1}{2}$.

If a war breaks out in a period, $(1-\zeta)$ proportion of the total surplus, where $\frac{1}{2} \leqslant \zeta < 1$, will be destroyed in this period. Following the war in a period, the loser will lose everything for ever, while the winner will seize all the remaining surplus in this period, and one unit of surplus in each of the following periods. Let $m =$

$(1-\beta)\zeta+\beta$, where $\beta \geqslant \frac{3}{4}$, which represents the average surplus entitled to the winner in each period following a war. It is assumed that $\lambda \geqslant pm$ and $1-\lambda \geqslant (1-p)m$, given which neither the opposition nor the ruler will initiate a war without external interventions. What is more, to simplify the analysis without affecting the main analytical results, I assume: $\eta^l < \frac{1-\lambda}{m} < \eta^h$, where $\frac{1}{2} < \frac{1-\lambda}{m} < 1$.

In this section, the state S is one of D, A, (K,η_t) or (T,η_t), where $\eta_t = \eta^h$ or $\eta_t = \eta^l$, and we can simplify (K,η^h) as K^h, (K,η^l) as K^l, (T,μ^h) as T^h and (T,μ^l) as T^l. It is assumed that the games starts in a period with $\eta_t = \eta^l$, and the follow are the timing of the game in a period: (please refer to Appendix III.2 for the Game Tree)

(1) The state η_t is revealed.

(2) If $S_t = K^l$, at the beginning of the period, the international community decides whether or not to urge the ruler to concede δ unit surplus to the opposition, by threatening to impose economic sanctions on this society. If not, denoted by $H = 0$, the state $S_t = (K,\eta_t)$ remains and the stage game ends. If they choose to, denoted by $H = 1$, and raise the proposal δ, the game moves onto the next stage.

(3) Observing the proposal δ by the international community, the ruler decides whether or not to accept the proposal. If the ruler accepts, denoted by $F = 0$, the sanctions will not be enforced and the society switches to the status of political transition, denoted by $S_t = (T,\eta_t)$; While if he declines the proposal, denoted by $F = 1$, the game moves onto the next stage.

(4) Following the action taken by the international community and the response by the ruler, the opposition decides whether or not to engage in a revolution to overthrow the ruler. If they choose not to engage in a revolution, denoted by $R = 0$, the authoritarian regimes remains, and the sanctions will be enforced in all the periods. If they choose to, denoted by $R = 1$, then a war breaks out. If the opposition wins the war, the society switches to a democracy; while if the ruler wins, the society

switches to an autocracy, denoted by $S_t = A$, and the sanctions will be enforced in all the periods and the stage game ends.

(5) If $S_t = T^h$, the ruler decides whether or not to purge the opposition. If he decides not to, denoted by $G = 0$, the society switches to a democracy, denoted by $S_t = D$. While If he decides to purge, denoted by $G = 1$, a war breaks out. If the opposition wins the war, the society switches to a democracy; while if the ruler wins, the society switches to an autocracy and the sanctions will be enforced in all the periods.

Analysis

I am going to use backward induction to derive the MPE in this game. It is obvious that if a proposal δ is raised by the international community and accepted by the ruler in a period with $S_{t-1} = K^l$, the ruler will abide by the agreement in a period with $S_{t-1} = T^l$. Now, let's examine the best strategy taken by the ruler in a period with $S_{t-1} = T^h$. If the ruler chooses to abide by the agreement, denoted by $G = 0$, the society will switch to democracy, and the continuation value for him is given by:

$$V^r(G = 0 \mid T^h, \delta) = \frac{1 - \lambda - \delta}{1 - \beta}. \quad (2.1)$$

While if the ruler chooses to purge, it is given by:

$$V^r(G = 1 \mid T^h, \delta) = \frac{\eta^h m(1 - p)}{1 - \beta}. \quad (2.2)$$

Hence, given an agreement δ reached in a period with $S_{t-1} = K^l$, then in a period with $S_{t-1} = T^h$, the problem for the ruler regarding whether or not to purge, is given by:

$$\underset{G\in\{0,1\}}{Max}\ V^r(G \mid T^h,\delta) = GV^r(G=1 \mid T^h,\delta) + (1-G)V^r(G=0 \mid T^h,\delta)$$

It is clear that the ruler will choose not to purge if and only if $(2.1) \geqslant (2.2)$, which gives:

$$\delta \leqslant 1-\lambda-\eta^h m(1-p) \equiv \tilde{\delta}, \quad (2.3)$$

where $0 < \tilde{\delta} < 1-\lambda$. The above inequality implies that $\tilde{\delta}$ is the threshold value determining whether or not the ruler will choose to purge the opposition a period with $S_{t-1} = T^h$. If $\delta \leqslant \tilde{\delta}$, i.e., the amount of surplus conceded to the opposition is relatively small, the best strategy for the ruler is to abide by the agreement; while if $\theta > \tilde{\delta}$, i.e., the amount of surplus conceded to the opposition is relatively large, the best strategy for the ruler is to purge the opposition in a period with $S_{t-1} = T^h$.

Now, let's examine the interaction between the players in a period with $S_{t-1} = K^l$. Firstly, Let's check the best response by the opposition if the ruler declines a proposal δ. If the opposition decides to engage in a revolution, the continuation value for them is given by:

$$V^g(R=1 \mid K^l,\delta,F=1) = \frac{pm}{1-\beta}. \quad (2.4)$$

While if they refrain from engaging in a revolution, thus the ruler remains in power, the sanctions will be imposed in all the periods. As a result, the continuation value for the opposition is given by:

$$V^g(R=0 \mid K^l,\delta,F=1) = \frac{\eta^l\lambda}{1-\beta}. \quad (2.5)$$

It is easy to show the opposition will opt for revolution if and only if$(2.4) \geqslant (2.5)$,

i.e.:

$$\eta^l \leqslant \frac{pm}{\lambda} \equiv \hat{\eta}^l, \quad (2.6)$$

where $\frac{1}{2} \leqslant \hat{\eta}^l \leqslant 1$. The above inequality shows that in the case that the ruler declines the proposal by the international community, economic sanctions may induce the opposition to engage in a revolution if and only if the society is vulnerable enough to the sanctions when $S_t = K^l$, i.e., $\eta^l \leqslant \hat{\eta}^l$, otherwise they would rather bear the loss resulting from the sanctions than taking the risk to overthrow the ruler through a revolution. Therefore, it is clear that when $\eta^l > \hat{\eta}^l$, if the international community chooses to introduce the threat of sanctions and raise a proposal, the continuation values for the players are given by:

$$V^r(F = 1 \mid K^l, \eta^l > \hat{\eta}^l, \delta) = \frac{\eta^l(1-\lambda)}{1-\beta}; \quad (2.7)$$

$$V^g(R = 0 \mid K^l, \eta^l > \hat{\eta}^l, \delta) = \frac{\eta^l\lambda}{1-\beta}; \quad (2.8)$$

$$V^s(\delta \mid K^l, \eta^l > \hat{\eta}^l) = \frac{\Upsilon - \omega}{1-\beta}. \quad (2.9)$$

It is clear that $(2.9) > 0$ if and only if $\Upsilon > \omega$. Therefore, when $\eta^l > \hat{\eta}^l$, if $\Upsilon > \omega$, the international community will opt for raising a proposal δ; while if $\Upsilon \leqslant \omega$, they will not.

Proposition 2.1:

When the society is not vulnerable to sanctions, i.e., $\eta^l > \hat{\eta}^l$*, if the symbolic value of enforcing sanctions exceeds the cost of enforcing them, i.e.,* $\Upsilon > \omega$*, the international society will raise a proposal* δ^**, where* $0 < \delta^* \leqslant 1 - \lambda$*, despite that the ruler will decline the proposal and the opposition will not engage in a revolution. When*

$\eta^l > \hat{\eta}^l$ and $\Upsilon > \omega$, there are infinite number of MPE defined by:

$$\{\delta = \delta^*, F = 1, R = 0 | K^l; \ .|K^h\},$$

Nonetheless, if the symbolic value of enforcing sanctions is outweighed by the cost of enforcing them, i.e., $\Upsilon \leqslant \omega$, the international society will refrain from raising any proposal. When $\eta^l > \hat{\eta}^l$ and $\Upsilon \leqslant \omega$, there is a unique MPE defined by:

$$\{H = 0, .|K^l; \ .|K^h\}.$$

Now let's turn to the case that $\eta^l \leqslant \hat{\eta}^l$. Given $\eta^l \leqslant \hat{\eta}^l$, it is easy to show if the ruler declines a proposal δ, this will lead to a revolution launched by the opposition. Thus, the continuation values for him and the international community are given by:

$$V^r(F = 1 \mid \eta^l \leqslant \hat{\eta}^l, \delta) = \frac{\eta^l(1-p)m}{1-\beta}; \quad (2.10)$$

$$V^s(\delta \mid \eta^l \leqslant \hat{\eta}^l, F = 1) = \frac{p\phi(1-\lambda) + (1-p)(\Upsilon - \omega)}{1-\beta}. \quad (2.11)$$

While if the ruler accepts the proposal, the following would be the Bellman equations for him and the international community respectively:

$$V^r(F = 0 \mid K^l, \eta^l \leqslant \hat{\eta}^l, \delta) = 1 - \lambda - \delta + \beta[\pi V^r(T^l) + (1-\pi)V^r(T^h)]; \quad (2.12)$$

$$V^s(\delta \mid K^l, \eta^l \leqslant \hat{\eta}^l, F = 0) = \phi\delta + \beta[\pi V^s(T^l) + (1-\pi)V^s(T^h)]. \quad (2.13)$$

We have shown that in a period with $S_{t-1} = T^h$, if $\delta \leqslant \tilde{\delta}$, the best strategy for the ruler is to abide by the agreement. Therefore, if the ruler accepts a proposal $\delta \leqslant \tilde{\delta}$, the continuation values the ruler and the international community are given by:

$$V^r(F = 0 \mid K^l, \eta^l \leqslant \hat{\eta}^l, \delta \leqslant \tilde{\delta}) = \frac{1-\lambda-\delta}{1-\beta}; \quad (2.14)$$

$$V^s(\delta \leqslant \tilde{\delta} \mid K^l, \eta^l \leqslant \hat{\eta}^l, F = 1) = \frac{\phi\delta}{1-\beta}. \quad (2.15)$$

Thus, given $\delta \leqslant \tilde{\delta}$, the ruler will accept the proposal if and only if $(2.14) \geqslant (2.10)$, which gives:

$$\delta \leqslant 1-\lambda-\eta^l m(1-p) \equiv \hat{\delta},$$

where $\tilde{\delta} < \hat{\delta} < 1-\lambda$. The above inequality shows that in a period with $S_{t-1} = K^l$, if $\delta \leqslant \hat{\delta}$, the ruler will accept the proposal by the international community; while if $\delta > \hat{\delta}$, he will decline the proposal, despite that this will result in a revolution. Based on the above analysis, we can infer that if $\delta \leqslant \tilde{\delta}$, the best response for the ruler is to accept and abide by the proposal in all the period, thus the society will embark on a peaceful political transition to democracy under the threat of economic sanctions; While If $\delta > \hat{\delta}$, the proposal will be declined by the ruler, and the threat of economic sanctions will induce the opposition to engage in a revolution. While if $\tilde{\delta} < \delta \leqslant \hat{\delta}$, the proposal will be accepted by the ruler and the revolution will be avoided in a period with $S_{t-1} = K^l$, however in a period $S_t = T^h$, the ruler will opt for purging the opposition instead of abiding by the agreement.

It is obvious that if the international community chooses to raise a proposal $\delta \leqslant \tilde{\delta}$, then the optimal proposal is given by $\delta = \tilde{\delta}$, the continuation values for the international community and the opposition are given by:

$$V^s(\delta = \tilde{\delta}|K^l) = \frac{\phi[1-\lambda-\eta^h m(1-p)]}{1-\beta}; \quad (2.16)$$

$$V^g(\delta = \tilde{\delta}|K^l) = \frac{1-\eta^h m(1-p)}{1-\beta}. \quad (2.17)$$

If the international community chooses to raise a proposal $\delta \in (\tilde{\delta}, \hat{\delta}]$, then the optimal proposal is given by $\delta = \hat{\delta}$, thus the continuation values for the international community and the opposition are given by:

$$V^s(\delta = \hat{\delta}|K^l)$$

$$= \frac{\phi[1-\lambda-\eta^l m(1-p)]}{1-\beta\pi} + \frac{\beta(1-\pi)}{1-\beta\pi}\{\frac{p\phi(1-\lambda)+(1-p)(\Upsilon-\omega)}{1-\beta}\}; \quad (2.18)$$

$$V^g(\delta = \hat{\delta}|K^l) = \frac{1-\eta^l m(1-p)}{1-\beta\pi} + \frac{\beta(1-\pi)pm}{(1-\beta)(1-\beta\pi)}. \quad (2.19)$$

While if the international community decides to raise a proposal $\delta > \hat{\delta}$, the continuation values for the international community and the opposition are given by:

$$V^s(\delta > \hat{\delta}|K^l) = \frac{p\phi(1-\lambda)+(1-p)(\Upsilon-\omega)}{1-\beta}; \quad (2.20)$$

$$V^g(\delta > \hat{\delta}|K^l) = \frac{pm}{1-\beta}. \quad (2.21)$$

It is easy to show that the difference between $V^s(\delta > \hat{\delta}|K^l)$ and $V^s(\delta = \hat{\delta}|K^l)$ is given by:

$$V^s(\delta > \hat{\delta}|K^l) - V^s(\delta = \hat{\delta}|K^l)$$

$$= \frac{1-p}{1-\beta\pi}\{\Upsilon - \omega + \phi[\eta^l m - (1-\lambda)]\} \equiv \Delta_1; \quad (2.22)$$

while the difference between $V^s(\delta > \hat{\delta}|K^l)$ and $V_s^s(\delta = \tilde{\delta}|K^l)$ is given by:

$$V^s(\delta > \hat{\delta}|K^l) - V_s^s(\delta = \tilde{\delta}|K^l)$$

$$= \frac{1-p}{1-\beta}\{\Upsilon - \omega + \phi[\eta^h m - (1-\lambda)]\} \equiv \Delta_2, \quad (2.23)$$

where, $\Delta_1 \geqslant 0$ if and only if:

$$\Upsilon \geqslant \omega + \phi[1 - \lambda - \eta^l m] \equiv \hat{\Upsilon}, \quad (2.24)$$

and $\Delta_2 \geqslant 0$ if and only if:

$$\Upsilon \geqslant \omega + \phi[1 - \lambda - \eta^h m] \equiv \tilde{\Upsilon}. \quad (2.25)$$

It is clear that $\hat{\Upsilon} > 0$ and $\hat{\Upsilon} > \tilde{\Upsilon}$. We can infer that $\tilde{\Upsilon} > 0$ if and only if $\omega > \hat{\omega}$, where $\hat{\omega} = \phi[\eta^h m - (1-\lambda)] > 0$. Hence, if $\omega \leqslant \hat{\omega}$, we always have $\tilde{\Upsilon} \leqslant 0$, thus $\Delta_2 > 0$. Base on the above analysis, it is easy to show the follow analytical results:

i) When $\omega \leqslant \hat{\omega}$, i.e., the cost of economic sanctions is relatively small, if $\Upsilon > \hat{\Upsilon}$, we have: $\Delta_2 > \Delta_1 > 0$, hence $V_s^l(\delta > \hat{\delta}) > V_s^l(\delta = \hat{\delta}) > V_s^l(\delta = \tilde{\delta})$. This means that the optimal strategy for the international community is to raise a proposal that is not acceptable for the ruler, such that the opposition would resort to a revolution to remove him. If $\Upsilon \leqslant \hat{\Upsilon}$, we have: $\Delta_1 \leqslant 0$ and $\Delta_2 > 0$, hence $V_s^l(\delta = \hat{\delta}) \geqslant V_s^l(\delta > \hat{\delta}) > V_s^l(\delta = \tilde{\delta})$. This means that the optimal strategy for the international community is to raise the proposal $\hat{\delta}$, which would be accepted by the ruler only in the periods when the society is vulnerable to economic sanctions.

ii) When $\omega > \hat{\omega}$, i.e., the cost of economic sanctions is relatively large, if $\Upsilon > \hat{\Upsilon}$,

we have $\Delta_2 > \Delta_1 > 0$, hence: $V_s^l(\delta > \hat{\delta}) > V_s^l(\delta = \hat{\delta}) > V_s^l(\delta = \tilde{\delta})$, which implies the optimal strategy is to raise a proposal that is not acceptable for the ruler; while if $\hat{\Upsilon} \geqslant \Upsilon \geqslant \tilde{\Upsilon}$, we have: $\Delta_1 \leqslant 0$ and $\Delta_2 \geqslant 0$, hence: $V_s^l(\delta = \hat{\delta}) \geqslant V_s^l(\delta > \hat{\delta}) \geqslant V_s^l(\delta = \tilde{\delta})$, which means the optimal strategy is to raise the proposal $\hat{\delta}$.

iii) When $\omega > \hat{\omega}$, if $\hat{\Upsilon} > \tilde{\Upsilon} > \Upsilon$, we have: $V_s^l(\delta = \hat{\delta}) \geqslant V_s^l(\delta = \tilde{\delta}) > V_s^l(\delta > \hat{\delta})$ if $\pi > \hat{\pi}$ (Please refer to Appendix III.4 for the proof), where,

$$\hat{\pi} = 1 - \frac{\phi m[\eta^h(1-\beta\pi) - \eta^l(1-\beta)]}{\beta[\omega + \phi(1-\lambda) - \Upsilon]}, \quad (2.26)$$

We can derive: $0 < \hat{\pi} < 1$ (please refer to Appendix III.5 for the proof); while if $\pi \leqslant \hat{\pi}$, we have: $V_s^l(\delta = \tilde{\delta}) \geqslant V_s^l(\delta = \hat{\delta}) > V_s^l(\delta > \hat{\delta})$, which implies that the optimal strategy for the international community is to raise the proposal $\tilde{\delta}$, which would be accepted and abided by the ruler in all the periods, hence the society will switch to a democracy through a peaceful transition.

PROPOSITION 2.2:

When $\eta^l \leqslant \hat{\eta}^l$, *if* $\Upsilon > \hat{\Upsilon}$, *the international society will raise a proposal that is not acceptable to the ruler, thus inducing the opposition to engage in a revolution through economic sanctions. There are infinite number of MPE, defined by:*

$$\{\delta = \delta^*, F = 1, R = 1 | K^l; \ .|K^h\},$$

where $\hat{\delta} < \delta^* \leqslant 1 - \lambda$.

If: i) $\omega \leqslant \hat{\omega}$ *and* $\Upsilon \leqslant \hat{\Upsilon}$*; ii)* $\omega > \hat{\omega}$ *and* $\hat{\Upsilon} \geqslant \Upsilon \geqslant \tilde{\Upsilon}$*; or iii)* $\omega > \hat{\omega}$, $\hat{\Upsilon} > \tilde{\Upsilon} > \Upsilon$ *and* $\pi > \hat{\pi}$, *the international society will raise a proposal that is only acceptable to the ruler when the society is vulnerable to the sanctions; while in a the transition period when the society is not vulnerable to the sanctions, the ruler will opt for purging the opposition. There is a unique MPE given by:*

$$\{\delta = \hat{\delta}, F = 0, .|K^l;\ \ G = 1|T^h\}.$$

If $\omega > \hat{\omega}$, $\hat{\Upsilon} > \tilde{\Upsilon} > \Upsilon$ and $\pi \leqslant \hat{\pi}$, the international society will raise a proposal that is acceptable to the ruler in all the period, hence the society will switch to a democracy through a peaceful transition. There is a unique MPE given by:

$$\{\delta = \tilde{\delta}, F = 0, .|K^l;\ \ G = 0|T^h, \}.$$

It is clear $\frac{\partial \tilde{\delta}}{\partial p} = \eta^h m > 0$, i.e., $\tilde{\delta}$ is monotonically increasing on p, which means that the stronger the opposition, the more surplus the ruler is willing to concede to them in the process of peaceful transition. Since $\frac{\partial \tilde{\delta}}{\partial \eta^h} = -(1-p)m < 0$, i.e., $\tilde{\delta}$ is monotonically decreasing on η^h, this means that the more vulnerable the society to the sanctions in a period with $\eta_t = \eta^h$, the more surplus the ruler is willing to concede to them during the peaceful transition.

It is easy to show: $V^s(\delta = \tilde{\delta}|K^l) > V^s(\delta > \hat{\delta}|K^l)$, which implies that the opposition always prefers the proposal $\tilde{\delta}$, such that the society will switch to a democracy through a peaceful transition, compared to a proposal that would be declined by the ruler, thus inducing them to engage in a revolution under the threat of economic sanctions. However, based on the above analysis, we can find it is not always to the best interest of the international community to raise the proposal $\tilde{\delta}$. When the symbolic value of sanctions is high enough, i.e., $\Upsilon > \hat{\Upsilon}$, the best strategy for them is to induce the opposition to engaging in a revolution to remove the ruler under the threat of economic sanctions, instead of raise a proposal, such that the society would be peacefully transformed to a democracy.

Since $\frac{\partial \hat{\Upsilon}}{\partial \phi} = 1 - \lambda - \eta^l m > 0$, i.e., $\hat{\Upsilon}$ is monotonically increasing on ϕ, this implies that the closer the relation between the opposition and the international community,

the less likely for the latter to induce the former to engage in a revolution through economic sanctions. Therefore, the improvement in the relationship between the opposition and the international community, may increase the chance of a peaceful transition to democracy in a society.

3.4 Case Studies

This section contains two subsections. The first one is the case of military interventions in the 2011 Libyan Revolution, and the second one is the case study of economic sanctions against Burma between 1988 and 2012.

3.4.1 Military Interventions in the 2011 Libyan Revolution

On 15 February 2011, between 500 and 600 Libyan people protested in front of Benghazi's police headquarters following the arrest of human rights lawyer Fathi Terbil.[33] The protests, which began by demanding Fethi Tarbel's release, rapidly dissolved into an anti-Gaddafi protest, spreading south and westwards across the country, including Bayda, Derna and Zintan. Libyan security forces responded to the unrest with lethal force, leading to violent clashes between the protesters and them. On 18 February, the protesters started active resistance to the government in Benghazi, and the protest/unrest escalated into a national-wide revolution against the Gaddafi government. By the end of February, the rebel forces had taken control of a significant part of Libya, including the major cities of Misrata and Benghazi, and other cities including Tobruk, Bayda, Zawiya, Zuwara, Sabratha and Sorman, and the important harbors at Ra's Lanuf and Brega.[34]

On 22 February, Gaddafi expressed his defiance towards the rebels and his de-

[33] Fethi Tarbel is known for his work with families of the victims of the 1996 Abu Salim prison massacre, in which around 1,000 prisoners were believed to have been executed.

[34] 'Gaddafi loses more Libyan cities',
http://www.aljazeera.com/news/africa/2011/02/201122312525669914 5.html

termination to purge the rebels, in his long speech on state television.[35] Gaddafi referred to the rebels as 'cockroaches' and 'rats' in the speech, and asserted that they did not represent anyone, and they were nothing. He vowed that he would not give up his power, and would cleanse Libya house by house until the insurrection was crushed. On 27 February, anti-Gaddafi forces established an interim governing body, the National Transitional Council of Libya (Henceforth NTC), with the main aims of co-coordinating resistance efforts and presenting a political face to the opposition to present to the world.[36] On 29 March, the political and international affairs committee of the Council announced its eight-point plan for Libya in The Guardian. [37] The eight-point plan expresses the rebel's desire to build a democratic society in Libya, and at the same time, show their strong determination to resort to revolution to overthrow Gaddafi's dictatorship, leaving no space for any form of peaceful negotiation between the Gaddafi regime and them.

While we have to note that despite the rebel's victory in several cities at this stage, the pro-Gaddafi forces still had obvious military advantages over the rebellious forces.The rebellious forces were composed primarily of civilians severely lacking of military training, such as the unemployed, students, teachers and oil workers. What is more, the rebels were badly organized, and the communications between different rebel groups were poor. Furthermore, the rebels are seriously outmatched by loyalist forces in the aspect of weapons, due to their limited access to modern heavy military equipment and air forces. The few armored units deployed by the rebels have been obsolete T55 tanks, while the pro-Gaddafi forces were equipped with relatively modern T72 and T62 tanks, and well supported by air forces, including MiG23 Flogger and Mi-25/35 Hind attack helicopters.[38] The pro-Gaddafi forces' ability to deploy

[35] 'Gaddafi: 'I will not give up', 'we will chase the cockroaches'.', http://www.timesofmalta.com/articles/view/20110222/local/gaddafi-in-fighting-speech-i-will-not-give-up.351487

[36] 'Libya opposition launches council', http://www.aljazeera.com/news/africa/2011/02/201122717595522185 3.html

[37] 'A vision of a democratic Libya' (The Interim National Council), The Guardian, 29 March 2011

[38] 'Libya rebels' weapons deficit', http://www.iiss.org/whats-new/iiss-voices/?blogpost=146

air power consisted a tremendous threat to the survival of the rebels, and this threat could hardly be neutralized by the rebels without international military interventions.

In early March, the pro-Gaddafi forces launched a large-scale counteroffensives, supported by their overwhelming relative modern weapons, including tanks and their air forces.[39] Between 9 and 17 March, despite the brave resistance from the rebels, pro-Gaddafi force retook Zawiya, Ra's Lanuf, Ajdabiya, Misrata, and Zuwara, with the support of tanks, artillery, warplanes and warships. The counteroffensive launched by the Gaddafi forces imposed tremendous military pressures on the rebellious forces. Facing the regime's relative superior heavy weapons and professional soldiers, it was becoming more and more difficult for the rebels to stop the pushing forwards of the pro-Gaddafi forces, without the support from intentional military interventions.

Why are the opposition forces so determined to remove Gaddafi through a violent revolution, despite that their military strength is much weaker than that of the pro-Gaddafi forces? The reasons largely lie in the following two aspects: the expectation of international military interventions and the fear of purge by Gaddafi in the near future. From the beginning of March 2011, the U.S. and the UK urged the international community, with the UN or NATO, to approve to establish a no-fly zone over Libya, in order to protect anti-Gaddafi protesters. In the European Union crisis summit on Libya opened in Brussels on March 11, France and the UK urged their partners to extend formal recognition to Libya's opposition while working on contingency planning for military action. These above actions taken by the U.S., the UK and France signaled that these three great powers were ready to push forwards and take military interventions in Libya in support of the rebel's fighting against Gaddafi regime, which provides a reliable expectation of the coming military interventions in the near future to the rebels.

Because of the improvements in the relations between Gaddafi regime and the

[39] 'Gaddafi loyalists launch offensive',
http://www.aljazeera.com/news/africa/2011/03/201131041228856242.html

western countries, including the U.S. and the UK during the past decade, there is a good reason for the opposition in Libya to worry that the international community may refrain from engaging in the military interventions against the Gaddafi regime in the near future, if their relations keep on improving. Thus even if Gaddafi regime agreed to concede some economic interests and political power to them in the current period, in the near future, without the pressure from potential military interventions, Gaddafi may resort to forces to purge the opposition, whose military strength is much weaker, compared to that of the pro-Gaddafi forces. Given the expectation that Gaddafi would purge them in the near future, revolution becomes the best strategy for the opposition in the period when they could get support from the international military interventions.

Despite the tremendous military pressures imposed by the regime, their determination to topple Gaddafi's rule by forces remained unshaken. "There is no return for us. This nation will not bear both of us. It is us or his (Gaddafi's) family," Iman Bugaigis, a media officer with the rebels told reporters in Benghazi.[40] Neither did the Gaddafi's regime seek to negotiate with the rebels, when they are pushing forwards in the count-attacks. On March 10, in an interview with the Reuters, Gaddafi's son Saif al-Islam,[41] declared that the regime would launch a full scale military offensive against the rebels, and announced: "There is no more chance for negotiations with rebels fighting the Libyan government."

On 17 March, the UNSC passed Resolution 1973[42] to impose a no-fly zone in Libyan airspace, and authorize the use of force in Libya to protect civilians from

[40] 'Gaddafi loyalists launch offensive',
http://www.aljazeera.com/news/africa/2011/03/201131041228856242.html

[41] He was part of his father's inner circle, in charge of public relations and diplomatic roles on behalf of his father, and he was the second most-widely recognized official in Libya in Gaddafi's regime (McLean, Alan; Shane, Scott; Tse, Archie (November 28, 2010). 'A Selection From the Cache of Diplomatic Dispatches'. New York Times.).

[42] Ten Security Council members voted in the affirmative: Colombia, Gabon, Lebanon, Bosnia and Herzegovina, Portugal, Nigeria, South Africa, and permanent members France, the United Kingdom, and the United States; Five abstained: Germany, Brazil, India, and permanent members China and Russia; None opposed.

attack,[43] which marked the beginning of military interventions led by USA, UK and France. With the military and financial support from NATO countries, the rebel forces launched an offensive against the pro-Gaddafi forces in the from later March onwards, and by 23 August, they had taken control of the vast majority cities, including Libya capital Tripoli, after the rebels seized Gaddafi's own compound in Bab al-Azizia. On 20 October 2011, Gaddafi was captured and killed, following which NTC declared the liberation of Libya and the official end of the war on 23 October 2011.[44] Even though there are still a number of uncertainties in the process of democratization in Libya, the fall of Gaddafi regime opens a window for the Libyan people to introduce a fair and democratic system.

3.4.2 Economic Sanctions against Burma 1988-2012

Economic sanctions for the sake of democracy promotion have been imposed on Burma since September 1988. It is not until April 2012, the international community, including the USA, Australia and EU, decided to suspend their sanctions against Burma, following the by-election. In this by-election on 1 April 2012, the opposition party National League for Democracy (henceforth NLD), led by Aung San Suu Kyi (henceforth Suu Kyi), won 43 of 45 open seats.[45]

Considering the level of synchronization between the sender countries and the strength of the sanctions, we may roughly divide the 23 years of sanctions against Burma, between 1988 and 2011, into three stages: i) the first stage, 1988-1996, is featured by litter synchronization and weak measures; ii) the second stage, 1997-2006, is characterized by improved synchronization but still weak measures; iii) and the third stage, 2007-2012, is featured by high level of synchronization and strong measures. By examining the sanctions measures taken by the sender countries and

[43] UNSC Resolution 1973, http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N11/268/39/PDF/N1126839.pdf?OpenElement

[44] "NTC declares 'Liberation of Libya' "(23 October 2011), Al Jazeera English.

[45] See 'EU lifts Burma sanctions for one year'(by Kate Nodal), The Guardian, 23 April 2012, http://www.guardian.co.UK/world/2012/APR/23/eu-lifts-burma-sanctions

responses by the junta and the opposition in these different periods, we can find that the effectiveness of the sanctions is closely related to the level of synchronization between the sender countries and the strength of the sanctions.

In August and September 1988, a series of pro-democracy marches, demonstrations and protests erupted into a mass uprising led by students, monks and political activists, which was brutally suppressed by the military regime led by the State Law and Order Restoration Council (Henceforth SLORC), leading to thousands of deaths.[46] In response to the bloody crackdown by the military regime, the USA suspended its arms sales and assistance in September 1988. In the same year, Canada banned arms export and non-humanitarian exports to Burma, and the EU imposed an arms embargo against Burma, and the top two donors to Burma, Japan and West Germany, suspended their aid.[47] While in the following two years, only the USA imposed further sanctions against Burma. In April 1989, the USA withdrew all Generalized System of Preferences (GSP) benefits, and in May 1990, the USA announced that it would continue to suspend economic assistance 'until a government broadly acceptable to the Burmese people comes into being'.[48]

However, the above sanctions failed to reduce the pace of the regime's suppression against dissidents, let alone facilitating the policy changes in favor of democratization. In July 1989, the military regime arrested the opposition leaders Aung San Suu Kyi, U Tin and other senior members of NLD, a major opposition party in Burma, and 'mistreatment of political prisoners, including torture, beatings, is reportedly widespread' (see HSEO). Although the military regime held relatively fair multiparty election on 27 May 1990, they refused to turn over the power after NLD won majority of seats in National Assembly.[49] Nonetheless, between 1991 and 1996, despite Burmese regime's defiance to the sanctions and the pressure of the interna-

[46]This figure is according to 'Human Rights Watch World Report 1989: BURMA', while the authorities claim that the deaths are around 350

[47]Source: Far Eastern Economic Review, 22 September 1988, 15

[48]Source: Far Eastern Economic Review, 7 June 1990, 11

[49]Source: Washington Post, 29 May 1990

tional community, the USA is the only country imposed further economic sanctions against Burma.[50] What is more, the weak pressure on the military regime was further diluted by a series of unilateral lifting of bans by Japanese government between 1990 and 1995.

From 1988 to 1996, due to the lack of synchronization, weak sanction measures and self-reliance of Burma's economy, the sanctions in this period failed to bring out any significant progress towards democracy in Burma, except for some trivial and temporary concessions made by the military regime. Furthermore, according to the report by Amnesty International in February 1997, the political repression and human rights violations in Burma had reached the peak since 1989.[51]

Between 1997 and 2006, there were significant improvements in the synchronization of sanction measures taken by the international community. In 1997, all the major sender countries, including USA, UK, EU and Canada, extended or imposed further sanctions against Burma, intending to exert more pressure on the Burmese regime for democratic progresses and human rights protection. However, between 1998 and 2001, the synchronization on the sanctions is undermined by the unilateral actions taken by Japan.[52]

Between 1997 and 2006, although the coordination between the sender states has been improved significantly, the sanctions are still far from being comprehensive and strong, and the EU sanctions against Burma were still much weaker than those of the USA. The investment ban imposed by the USA in 1997 exempted the USA firms

[50]In July 1991, the U.S. government refused to renew the bilateral textile agreement that expired on 31 December 1990. In April 1994, the USA listed Burma as an international "outlaw" state, preventing the funds available under the Foreign Assistance Act from financing U.S. share in international organizations for Burmese programs. In December 1995, Senator Mitch McConnell introduced the "Burma Freedom and Democracy Act," prohibiting U.S. investment, assistance, travel in Burma and imports from Burma (See HSEO).

[51]Source: Washington Post, 12 February 1997

[52]In March 1998, Japan announced that it would provide a 2.5 billion yen loan to Burma for emergency maintenance of Rangoon's international airport. In November 1999, though Japan refused to resume full-scale financial assistance to Burma, it decided to fund projects in Burma on a case-by-case basis. In May 2001, Japan resumed development aid to Burma, and granted 28 million USD to Burma for modernizing a power plant.

that were already operating in the country. From Figure 1 (in Appendix III.6), we can find following the sanctions in 1997, FDIs from the USA, the EU and the UK dropped dramatically, leading to a sharp decrease in the total FDIs in Burma from 879 million USD in 1997 to 191 million USD in 2002. While from Figure 2(in Appendix III.7), we can see that the sanctions introduced in 1997 and 2003, have no significant impact on the exports of Burma. Despite the sharp drop in FDIs, Burma's annual real GDP growth rate raised from 5.7 percent in 1997 to 13.7 percent in 2000, and the GDP kept on growing fast throughout the following seven years.

Like the sanctions in the first period, those in the second period were still not strong enough to bring out any major policies, expect for some minor adjustments in the ways treating the political dissidents. In June 2003, the regime took Suu Kyi and 19 other members of NLD into "protective custody", and closed the party's headquarters in Rangoon and several NLD offices around the country. With the house arrest of Suu Kyi, the NLD has become increasingly cautious and politically inactive, refraining from political mobilization and action.

Although the damage resulting from the sanctions in this stage was still not severe enough to force the Burmese regime to embark on democratization, it brought out significant collateral damage on the ordinary Burmese civilians, which increased the tension between them and the regime, and partially contributed to the nationalwide demonstrations in 2007. The investment bans resulted in a decline in average salaries, benefits and working conditions for workers, because of the withdrawal of the western investors.[53] From Figure 3(in Appendix III.8) and Figure 4(in Appendix III.9), we can find that following the sanctions introduced in 2003, the growth of Burma's economy slows down, and the purchasing power parity of GDP per capita decreased from 1800 USD to 1700 USD in 2004 and 2005.

Due to the lack of foreign reserve resulting from the sanctions and the regime's mismanagement of the economy, the Burmese authorities removed the fuel subsidies

[53] see International Crisis Group Asia Report N°782.

on 15 August 2007. As a result, the fuel prices rose by more than 60 percent, and price of compressed natural gas hiked by 500 percent. The price increase soon spreads to the prices of other basic necessities, including foods. These price increases triggered a wave of national-wide protests between 19 August and 27 September 2007. During this period, more than 200 protests were witnessed in 66 cities across the country, and the major demonstrations took place between 24 and 27 September. This wave of demonstrations were finally crack down by the security force and the army, through the use of brutal violence and a large number of arrests of the dissidents.[54] By 1 October, the regime had succeeded in preventing any significant demonstrations around the country.

In response to Burmese regime's crackdown on the peaceful demonstrations, further and strengthened sanctions against Burma were introduced by the major sender states, including USA, EU, Japan, Canada and Australia. In October 2007, the USA extended the ban authorized under the BFDA to cover high technology exports, and introduced asset freeze and visa bans on leading Burmese officials and those who with strong connections to Burma's military regime. Furthermore, the USA imposed a ban on importation of all the gems of Burmese origin,[55] and prohibited Burmese financial institutions from accessing the U.S. financial system. In the same month, the EU imposed bans on exports, imports and investment with Burma's logging, timber and mining sectors,[56] and Australia announced arms embargo and financial sanctions on Burma.[57] Also in the same month, Japan halted more than 4.7 million dollars of funding for a human resources center based in Rangoon University.[58]

[54]Burmese junta raids monasteries, arrests over 200 monks Mizzima News, 27 September 2007; Myanmar: UN rights expert to probe allegations of abuses during crackdown, http://www.un.org/apps/news/story.asp?NewsID=24405&Cr=myanmar&Cr1=

[55]This ban was established under the 'Tom Lantos Block Burmese JADE Act', which intended to close a loophole through which Burmese gems, processed into jewelery outside Burma, could be exported to the U.S..

[56]'EU Imposes Fresh Sanctions on Myanmar', http://www.dw.de/dw/article/0,,2934373,00.html

[57]These sanctions denied access to any Australian financial institutions to those senior government officials, military personnel and prominent business associates of the regime ('Australia's autonomous sanctions: Burma', http://www.dfat.gov.au/un/unsc_sanctions/burma.html)

[58]'Japan adds to pressure on Burma (16 October 2007)', http://news.bbc.co.uk/1/hi/world/asia-

In 2007, Burma economy had become much more susceptible to sanctions in the following years, mainly because of the following two reasons. The first reason is the slump in GDP growth since 1998. The annual GDP growth rate dropped dramatically from 12.0 percent in 2007 to 3.6 percent in 2008, and in the following two years, the growth rates were 5.1 percent and 5.3 percent respectively (see Figure 4 in Appendix III.10). The slump in GDP growth rate was partially due to the sanctions, which presented the Burmese regime the potential further damage on the economy resulting from the sanctions. At the same time, with the sharp decrease in GDP growth rate, the regime became more reliant on FDIs and international trade to boost the economy growth. The regime embarked on a series of reforms in 2011, including currency exchange rate, anti-corruption and foreign investment laws and taxation, and one of the major goals of these reforms is to attract more FDIs.[59]

Another reason is the expansion of industry and service sectors. With the growth in industry and service sectors, the development of Burmese economy becomes increasingly reliant on the international business relations, because of the significant decrease of the importance of agriculture in Burma's economy.[60] Consequently, the Burma's economy could not longer be self-reliant, instead, it becomes vulnerable to the fluctuations in FDIs and international trade, thus becomes more susceptible to economic sanctions.

Following the wave of sanctions in 2007, instead of showing defiance or giving worthless promise of democratization, they started to put efforts on making some 'pro-democracy' institutional changes, in order to relieve the pressure from the sanc-

pacific/7046267.stm

[59] 'Burma's Business Revolution' (25 January 2012), http://the-diplomat.com/2012/01/25/burma%E2%80%99s-business-revolution/

[60] In 1980s and 1990s, Burma's economy relied primarily upon agriculture, which accounted for 57-63 percent of Burma's GDP and employed approximately 63-70 percent of the labor force. Because of the dominate role of agriculture in the economy, the Burma's economy was rather self-reliant in the 1980s and 1990s. While in the 2000s, with the continuous and fast growth in the industry and service sectors, the importance of agriculture sector declined steadily and it's percentage dropped to 43 percent till 2007 (see Figure 5). The industry and service sectors replace the agriculture sector as the major part of the economy and the dominant source of economic growth in Burma.

tions and the domestic opposition. In February 2008, under the wave of economic sanctions, the SPDC announced to hold a constitutional referendum in May 2008, claiming that the new Constitution would ensure the creation of a "discipline-flourishing democracy", and multiparty elections would be held in 2010. On 2 May, the regime held the referendum on 10 May, and the new constitution was approved through manipulating the referendum.[61]

In accordance with the new constitution, the regime held a general election on 7 November 2010, which was the first general election since 1990. Despite that the general election were widely alleged to have been manipulated by the regime and won by Union Solidarity and Development Party, a party loyal to the military junta, it marked the start of the political transition from the military rule to the civilian government. What is more, on 13 November 2010, six day after the result of general election was announced, Suu Kyi was released from house arrest, and a few days later, the NLD announced that they would re-register as a political party in order to contend 48 parliament seats in the by-elections.[62]

Since October 2011, the regime started to relax the press censorship,[63] and in the same month, Tint Swe, the head of press censorship department, said that censorship should be abolished in the near future, since it was incompatible with democratic practices.[64] In October 2011, the regime passed new International Labour Organization-approved legislation, which allows labour unions the right to strike.[65] Furthermore, on 1 April 2012, the regime held a rather free and fair by-election that was widely praised by the international community, in which NLD won 43 of 45 open seats.[66] This by-election marked a major progress towards democracy in Burma.

[61] 'Massive Cheating Reported from Referendum Polling Stations', The Irrawaddy, 10 May 2008

[62] "Suu Kyi's NLD democracy party to rejoin Burma politics". BBC News. 18 November 2011.

[63] For example, the regime started to allow the newspapers to publish photographs and reports about Suu Kyi.

[64] Burma censor chief calls for more media freedom (by Rachel Harvey), BBC, 8 October 2011

[65] 'Burma law to allow labour unions and strikes' (14 October 2011), BBC, http://www.bbc.co.uk/news/world-asia-pacific-15303968

[66] See 'EU lifts Burma sanctions for one year'(by Kate Nodal), The Guardian, 23 April 2012,

So far, there have been important policy and institutional changes in favor of democracy in Burma, however without the support of sender states and the threat of sanctions, the opposition in Burma still does not have enough leverages to ensure the continuous progress towards democracy. Following the by-election, the Burmese government has been eager to work with Suu Kyi, in order to convince the sender states to remove the sanctions.[67] While Suu Kyi insisted that the sanctions should be suspended instead of lifted, as a way to acknowledge the progress to democracy, while at the same time keep imposing the threat of sanctions on the regime[68].

Soon after the by-election, the sender states announced to lift or suspend the sanctions against Burma, in response to the democratic progress in Burma. In April 2012, in recognition of the changes taking place in the country, UK, EU, Australia and Canada all suggest that their sanctions should be suspended, [69] On 17 May 2012, The United States decided to suspend the investment bans in Myanmar, while at the same time stressed that the laws underpinning U.S. sanctions on Myanmar would remain, in order to maintain the leverage to push further progress on democratic reforms in Burma.[70]

In summary, in the first stage, the sanctions had negligible impact on Burma's economy, because of the weakness of the sanctions and the self-reliance of Burmese economy. Thus we can infer that given the extremely low cost of sanctions for the sender states, the introductions of sanctions is mainly used as a symbolic instrument to convey their stance to defend their democratic value and express their support to the opposition in Burma. In the second stage, with the improvement in the syn-

http://www.guardian.co.UK/world/2012/APR/23/eu-lifts-burma-sanctions

[67] 'Sanctions Worked in Burma',Wall Street Journal, 4 April 2012.

[68] 'Aung San Suu Kyi supports suspension of UK sanctions against Burma', http://www.telegraph.co.uk/news/worldnews/asia/burmamyanmar/9202653/Aung-San-Suu-Kyi-supports-suspension-of-UK-sanctions-against-Burma.html

[69] David Cameron calls for Burma sanctions to be suspended, BBC, 13 April 2012; EU lifts Burma sanctions for one year, http://www.guardian.co.uk/world/2012/apr/23/eu-lifts-burma-sanctions; anada suspending Burma sanctions, http://www.cbc.ca/news/world/story/2012/04/24/burma-canada-sanctions.html

[70] WRAPUP 1-US suspends sanctions on investment in Myanmar (May 17 2012), http://www.reuters.com/article/2012/05/17/usa-myanmar-clinton-idUSL1E8GHHZQ20120517.

chronization of sanctions and the increase in their strength, even though the damage resulting from the sanctions is still not severe enough to force the Burmese regime to embark on democratization, they result in heavy collateral damage on the ordinary Burmese civilian. This increases the tension between them and the regime, and partially contributes to the national-wide demonstrations in 2007. In the third stage, after sanction measures have been significantly strengthened and Burma's economy becomes more vulnerable to the sanctions, the Burmese regime is finally forced to carry out major policy changes towards democracy.

3.5 Conclusion

International community may intervene to help remove an authoritarian ruler in a society, either through military interventions or through economic sanctions. Both apparatuses may help promote peaceful democratization in a state. Military interventions may force the ruler to embark on democratization by increasing the revolution threat and reducing their expected payoff from a civil war. While economic sanctions may force an authoritarian regime to implement policy changes towards democracy, by reducing their payoff in status quo under sanctions, and raising the revolution threat through intensifying the interest conflict between the opposition and them, due to the 'collateral damage' of the sanctions.

While both military interventions and economic sanctions may induce the opposition to resort to a revolution to overthrow the authoritarian regimes, thus increasing the likelihood of a civil war and raising the uncertainties in the democratization process in the authoritarian states. The expectation of military interventions and low consistency of them may induce the opposition to resort to a revolution by aggravating the commitment problem between the ruler and them. The threat of military interventions in a future period, would increase the ruler's incentive to purge the opposition in a period when there is no such a threat. As a result, a revolution become

a more attractive strategical option for the opposition in a period when they could receive the support from military interventions. While economic sanctions reduces the surplus for the opposition because of the 'collateral damage', thus may force the opposition to revolt by aggravating the interest conflicts between the regime and them, through demanding policy changes that are not acceptable by the regime.

The sender states of military interventions or economic sanctions have different variables in their utility functions, compared to the opposition's in the target states. Hence, their interests are not always in line with the opposition's. military interventions may not be always carried out when the opposition needs them, while they are rarely implemented against the interests of the opposition, because of their relative trivial symbolic value, compared to the huge cost involved in military interventions, and the relatively 'passive' feature of them. However, unlike military interventions, economic sanctions could be introduced as an 'active' diplomatic apparatus and their symbolic value could play an important role in the sender states' utility function. Under certain conditions, they may be carried out to maximize the sender states' or the policy makers' interest, at the cost of interests of the opposition and the welfare of the ordinary civilians in the target states.

Economic sanctions are usually considered by the public and researchers to be a failure if they fail to bring our designated policy changes in the target states. However, considering the active strategic use of sanctions in maximizing sender states' interest, some episodes of these sanctions might actually be a strategic success for the sender states. As pointed out by Galtung (1967), 'if economic sanctions do not make a receiving nation comply, they may nevertheless serve functions that are useful in the eyes of the sender nation(s)'. This may partially explain the much higher 'failure' rate of economic sanctions, compared to that of military interventions, and the recurrence of half-hearted and seemingly ineffective sanctions since World War II (see HSEO).

General Conclusion

By exploiting the fragility of the cooperation between different citizen groups, the strategy of divide-and-rule has been implemented by many kleptocrats and other authoritarian rulers to sustain their ruler. This strategy could be applied not only in a society with two major citizen groups, but also in a society with many citizen groups. The increase in the number of citizen groups may create more space for the kleptocrat to implement this strategy, thus increasing the survivability of the regime. When there are more than two citizen groups, a small number of citizen groups may benefit from the discriminatory redistribution policies implemented by the kleptocrat, while the vast majority of them will become the victims of the kleptocracy. In a society where the strategy of divide-and-rule prevails, sharp polarization between the citizen groups may arise in the aspects of economic interests and political power, due to the discriminatory redistribution policies,

Though the strategy of divide-and-rule is powerful, it is not invincible. A measure or factor may help constrain the divide-and-rule strategy, it it could increase the cost to support the ruler or the benefit to remove him. For example, the increase in the expected bonus from removing the kleptocrat may help constrain the divide-and-rule strategy, and when it is large enough, the ruler may be forced to give up his power. What is more, if the citizen groups are closely connected to each other and mutually care about each other's interests, this may serve to improve the payoff for each of them and even remove the ruler from power.

Furthermore, the existence of the benevolent opposition organizations, like trade unions and religious institutions, may also help constrain the divide-and-rule strategy, through punishing the members supporting the ruler. They may contribute to raising the payoffs to their members from two aspects. On one hand, the members are entitled to the benefits provided by them. On the other had, the punishment threat imposed on their members by them, may help increase the transfer to the citizen groups

or decrease the tax imposed on the citizen groups along the equilibrium path. However, compared to punishing the citizen group supporting the ruler, the opposition organizations could more effectively constrain the kleptocracy through rewarding the citizen group challenging the ruler or the one supporting the challenge.

In many countries, the democratization process is largely determined by the interactions between the 'internal players', such as the kleptocrat, the opposition and some other citizen groups; While in some other ones, it could be significantly affected by the actions taken by the 'external players', such as the UN and the great powers. International community may intervene to help remove an authoritarian ruler in a society, either through military interventions or through economic sanctions. Both apparatuses may help promote peaceful democratization in a state. While they may also induce the opposition to resort to a revolution to overthrow the regime, thus increasing the likelihood of a civil war and raising the uncertainties in the democratization process in an authoritarian state.

The sender states of military interventions or economic sanctions have different variables in their utility functions, compared to the opposition's in the target states. Military interventions may not be always carried out when the opposition needs them, while they are rarely carried out against the interest of the opposition. However, unlike military interventions, economic sanctions could be introduced as an 'active' diplomatic apparatus, because their symbolic value could play an important role in the sender states' utility function. As a result, they may be implemented to maximize the sender states' utility, at the cost of the interest of the opposition and the welfare of the ordinary civilians in the target states.

[References:]

Acemoglu, Daron and James A. Robinson. (2001). 'A Theory of Political Transitions', *The American Economic Review*, Vol. 91, No. 4, pp. 938-963.

Acemoglu, Daron, James A. Robinson and Thierry Verdier (2004), 'Kleptocracy and Divide-and-Rule: A Model of Personal Rule', *Journal of the European Association*, April–May 2(2–3), pp. 162–192.

Acevedo, Domingo E.(1993), 'The Haitian Crisis and the OAS Response: A Test of Effectiveness in Protecting Democracy', in *Enforcing Restraint: Collective Intervention in International Conflicts* (edited by Lori Fisler Damrosch), pp. 119-156.

Africa Watch (1993), '*Divide and Rule: State-Sponsored Ethnic Violence in Keny*a', Human Rights Watch, p. 8.

Alagappa, M. (1995), *Political Legitimacy in Southeast Asia*, Stanford University Press.

Amegashie, J. Atsu (2008), *Autocratic rule in ethnically-diverse societies* (Unpublished), available on: http://mpra.ub.uni-muenchen.de/8933/

Baldwin, David (1985), *Economic Statecraft*, Princeton, NJ: Princeton University Press.

Barkan, Joel D (1993), 'Kenya: Lessons From a Flawed Election', *Journal of Democracy*, Vol. 4, No. 3, pp. 85-99.

Bozóki, A. (2002) (ed.), *The Roundtable Talks of 1989: The Genesis of Hungarian Democracy*, Budapest: CEU Press.

Bratton, Michael and Nicolas Van de Walle (1997), *Democratic experiments in Africa*. Cambridge: Cambridge University Press, p. 182.

Brooker, Paul (2009), *Non-Democratic Regimes:Comparative Government and Politics*, Palgrave Macmillan.

Brown, Stephen (2005), 'Foreign Aid and Democracy Promotion: Lessons from Africa', *The European Journal of Development Research*, Vol.17, No.2, pp.179–198.

Brumberg, Daniel (2003), 'Liberalization Versus Democracy: Understanding Arab Political Reform', Working Paper, Democracy and Rule of Law Project.

Cnaan, R. A. and S. C. Boddie (2001), 'Philadelphia Census of Congregations and Their Involvement in Social Service Delivery', *Social Service Review*, 75, pp. 559-589.

Chassang, Sylvain and Gerard Padró i Miquel (2009), 'Economic Shocks and Civil War', *Quarterly Journal of Political Science*, Vol. 4, Issue 3, pp. 211-228.

Chomsky, Noam (1993), *Year 501: the conquest continues*, Boston, South End Press, pp. 207-219.

Chomsky, Noam (1993), *The Prosperous Few and the Restless Many,* Boston, South End Press, pp. 29.

Cirtautas, Arista M. (1997), *The Polish Solidarity Movement: Revolution, Democracy and Natural Rights,* Routledge.

Collins, Stephen D. (2009), 'Democracy Sanctions An Assessment of Economic Sanctions as an Instrument of Democracy Promotion', *Taiwan Journal of Democracy*, Vol. 5, No. 2, pp.69-96.

Conlon, Justin (2004), 'Sovereignty vs. human rights or sovereignty and human rights?', *Race & Class, Institute of Race Relations*, 0306-3968 Vol. 46, No. 2, pp. 75-100.

Cortright, David and George A. Lopez (2000), *The Sanctions Decade: Assessing UN Strategies in the 1990s*, Boulder, CO: Lynne Rienner Publishers.

Corrales, Javier (2001), '*Strong Societies, Weak Parties, Regime Change in Cuba and Venezuela in 1950s and Today*, Latin America Politics and Society.

Courtois, Stephane, Nicolas Werth, Karel Bartosek, Jean-Louis Panne, Jean-Louis Margolin, Andrzej Paczkowski (1999), *The Black Book of Communism: Crimes, Terror, Repression* (edited by Mark Kramer), Harvard University Press.

Crisp, Beth R.(2004). *Catholic agencies: Making a distinct contribution to Aus-*

tralian social welfare provision?, Australasian Catholic Record.

Crassweller, R. D. (1966), *Trujillo: The Life and Times of a Caribbean Dictator*, MacMillan, New York, pp. 71.

Davis, Brian L. (1990), *Qaddafi, Terrorism, and the Origins of the U.S. Attack on Libya*, New York. Praeger Publishers.

De Krnjevic-Miskovic, Damjan (2001), 'Serbia's Prudent Revolution', *Journal of Democracy*, Vol. 12, No. 3: 104.

Dimitrov, Gergana Císařová 2005, 'Democracy and International Intervention in Bosnia and Herzegovina', *Central European Political Studies Review*, Vol. 6, No. 1, pp. 45-71.

Dinstein, Yoram (2005*), War, aggression and self-defence (4th ed.).* Cambridge University Press. pp. 287.

Dogan, Mattei (2003), 'Conceptions of Legitimacy', in *Encyclopedia of Government and Politics (2nd ed.)*(edited by Mary Hawkesworth and Maurice Kogan), London: Routledge, Vol. 2, pp. 116-219.

Donado, Alejandro and Klaus Wäld (2012), 'How Trade Unions Increase Welfare, *The Economic Journal.*

Eland, Ivan (1995), 'Economic Sanctions as a Tool of Foreign Policy', in *Smart Sanctions: Targeting Economic Statecraft* (edited by David Cortright, and George Lopez), Lanham: Rowman and Little Field.

Elliott, Kimberly Ann (1992), 'Economic Sanctions, in *Intervention in the 1990s: U.S. Foreign Policy in the Third World* (edited by Peter J. Schraeder, Boulder), CO: Lynne Rienner.

Ellis, Stephen & Gerrie ter Haar (2006), 'Religion and Development in Africa', https://openaccess.leidenuniv.nl/bitstream/handle/1887/12909 /ASC-071342346-174-01.pdf?sequence=2

Eisner, Douglas (1993), 'Humanitarian Intervention in the Post-cold War Era',

Boston University International Law Journal, Vol. 11, pp. 195, 219–220;

Fearon, James D. (1995), 'Rationalist Explanations for War', International Organization 49, 3, Summer, pp.379-414.

Fearon, James D. (2007), 'Fighting Rather than Bargaining (Manuscript)', Department of Political Science, Stanford University, available at: http://www.stanford.edu/~jfearon /papers/fearon%20ciar0607.pdf.

Galtung, Johann (1967), 'On the Effects of International Economic Sanctions', *World Politics,* Vol. 19, pp. 378-416.

Gandhi, Jennifer and Adam Przeworski (2007), 'Authoritarian Institutions and the Survival of Autocrats', *Comparative Political Studies*, Vol. 40, No. 11.

Gao, Yuan (1987), *Born Red: A Chronicle of the Cultural Revolution*, Stanford University Press.

Gifford, Paul (1995), *The Christian Churches and the Democratisation of Africa (Studies of Religion in Africa)*, Publisher: Brill.

Haley, P. Edward (1984), *Qaddafi and the United States since 1969*, New York. Praeger Publishers.

Herbst, Jeffrey I. (2000), *States and Power in Africa: Comparative Lessons in Authority and Control*, Princeton: Princeton University Press.

Hermann, Margaret and Charles Kegley (1996), 'Ballots, a Barrier Against the Use of Bullets and Bombs, *Journal of Conflict Resolution*, Vol. 40, No. 3, pp. 436-460.

Hirshleifer, Jack (1995), *Anarchy and its Breakdown*, The Journal of Political Economy.

Hirschman, Albert O. (1945), *National Power and the Structure of Foreign Trade*, University of California Press, 17.

Holmes, L (1986), *Politics in the Communist Word*, Oxford University Press.

Horsey, Richard (2008), 'The dramatic events of 2007 in Myanmar: domestic

and international implications', in *Dictatorship, Disorder and Decline in Myanmar* (edited by Monique Skidmore and Trevor Wilson), ANU Press. pp. 13-28.

Huband, Mark (1998), *The Liberian Civil War*, Frank Cass.

Hufbauer, Gary Clyde, Jeffrey Schott, Kimberly Ann Elliott, and Barbara Oegg (2007), *Economic Sanctions Reconsidered (3rd ed.)*, Washington, DC: Peterson Institute for International Economics.

Huntington, Samuel P.(1992), *The Third Wave: Democratization in the Late Twentieth Century*, University of Oklahoma Press.

Jackson, Robert H. and Carl G. Rosberg (1982), 'Why Africa's Weak States Persist: The Empirical and the Juridical in Statehood', World Politics, Vol. 35, Issue 1, pp. 1-24.

Keune, Maarten (2008), 'Unions and Democracy in Europe: Background, Challenges and Agenda', Center for the Study of Imperfections in Democracy, DISC WP/2008/5.

Kraus, Jon (ed.) (2007), *Trade Unions and the Coming of Democracy in Africa*, New York: Palgrave Macmillan.

La Ferrara, Eliana and Robert H. Bates (2001), 'Political competition in weak states', *Economics & Politics,* Vol. 13, Issue 2, pp. 159-184.

Leslie, Winsome J. (1989), *The World Bank and Structural Transformation in Developing Countries: The Case of Zaire*, Boulder: Lynne Rienner Publishers.

Levitsky, Steven and Lucan A. Way (2003), 'Autocracy by Democratic Rules: The Dynamics of Competitive Authoritarianism in the Post-Cold War Era', *Communist and Post-Communist Studies.*

Lipset, Seymour Martin (1959), 'Some Social Requites of Democracy: Economic Development and Political Legitimacy', *American Political Science Review*, Vol. 53, No.1.

Losman, Donald (1979), *International Economic Sanctions: The Cases of Cuba,*

Israel, and Rhodesia, University of New Mexico Press.

Mayall, James (1996), *The New Interventionism 1991-1994: United Nations Experience in Cambodia, Former Yugoslavia and Somalia*, Cambridge University Press.

Meernik, James. (1996), 'United States Military Intervention and the Promotion of Democracy', *Journal of Peace Research*, Vol. 33, No. 4, pp. 391-402.

Moya Pons, Frank (1995), *The Dominican Republic: A National History*, Princeton: Markus Weiner, p398.

Mulli, Lucy(1999), 'Understanding election clashes in Kenya, 1992 and 1997, *African Security Review*, pp. 75-80.

Muthoo, Abhinay (2004), 'A model of the origins of basic property rights', *Games and Economic Behavior*.

Nowrojee, Binaifer and Bronwen Manby (1993), *Divide and rule: state-sponsored ethnic violence in Kenya*, Human Rights Watch.

Nelson, Joan M. and Stephanie J. Eglinton (1996), 'The International Donor Community: Conditioned Aid and the Promotion and Defense of Democracy', in *Beyond Sovereignty: Collectively Defending Democracy in the Americas* (edited by Tom Farer), Baltimore, MD: Johns Hopkins University Press, pp. 177-178.

Olson, Mancur C. (1965), *The Logic of Collective Action; Public Goods and the Theory of Groups*, Cambridge: Harvard University Press.

Pearson, Frederic S., Scott Walker, and Stephanie Stern (2006), 'Military Intervention and Prospects for Democratization', *International Journal of Peace Studies*, Vol. 11, No. 2, Autumn/Winter.

Padró i Miquel, G. (2006), 'The Control of Politicians in Divided Societies: The Politics of Fear', NBER Working Paper No. 12573.

Przeworski, Adam (1991), *Democracy and the Market; Political and Economic Reforms in Eastern Europe and Latin America*, New York: Cambridge University Press.

Peceny, Mark (1999a), *Democracy at the Point of Bayonets*, The Pennsylvania State University Press.

Peceny, Mark (1999b), 'Forcing Them to be Free', *Political Research Quarterly*, Vol. 52, pp. 549-582.

Posner, Daniel (1995), 'Malawi's New Dawn, *Journal of Democracy*, Vol. 6, No. 1, p. 131.

Powell, Robert (2004a), 'Bargaining and Learning While Fighting, *American Journal of Political Science,* Vol. 48, Issue 2, pp. 344-361.

Powell, Robert (2006), 'War as a Commitment Problem', *International Organization*, 60(Winter), pp.169-204.

Rogers, Elizabeth (1996), 'Economic Sanctions and Internal Conflict', in *The International Dimensions of Internal Conflict* (edited by Michael Brown), Cambridge, MA: MIT Press.

Salih, M.A. Mohamed(2002), 'Islamic NGOs in Africa: The Promise and Peril of Islamic Voluntarism', Occasional Paper, Centre of African Studies, University of Copenhagen. http://www.teol.ku.dk/cas/research/publications/occ._papers/salih2001.pdf.

Sandbrook, Richard (1985), *The Politics of Africa's Economic Stagnation*, New York: Cambridge University Press.

Schreiber, Anna (1973), 'Economic Coercion as an Instrument of Foreign Policy: U.S. Economic Measures against Cuba and the Dominican Republic', *World Politics*, Vol. 25, pp. 387-413;

Turner, Thomas and Crawford Young (1985), *The Rise and Decline of the Zairian State*, Madison: University of Wisconsin Press.

Valentino, Benjamin A. (2011), 'The True Costs of Humanitarian Intervention: The Hard Truth About a Noble Notion', *Foreign Affairs*, Vol. 9, No. 6.

Weber, Max (1978), *Economy and Society : an outline of interpretive sociology* (edited by Guenther Roth and Claus Wittich), University of California Press, Vol. 1.

Westwood, Kathleen (2011), *The Libyan Rebels: Evolution of a Fighting Force*, NATO Civil-Military Fusion Centre, July.

Whang, Taehee (2011), 'Playing to the Home Crowd? Symbolic Use of Economic Sanctions in the United States', *International Studies Quarterly*. Volume 55, Issue 3, pp. 787–801.

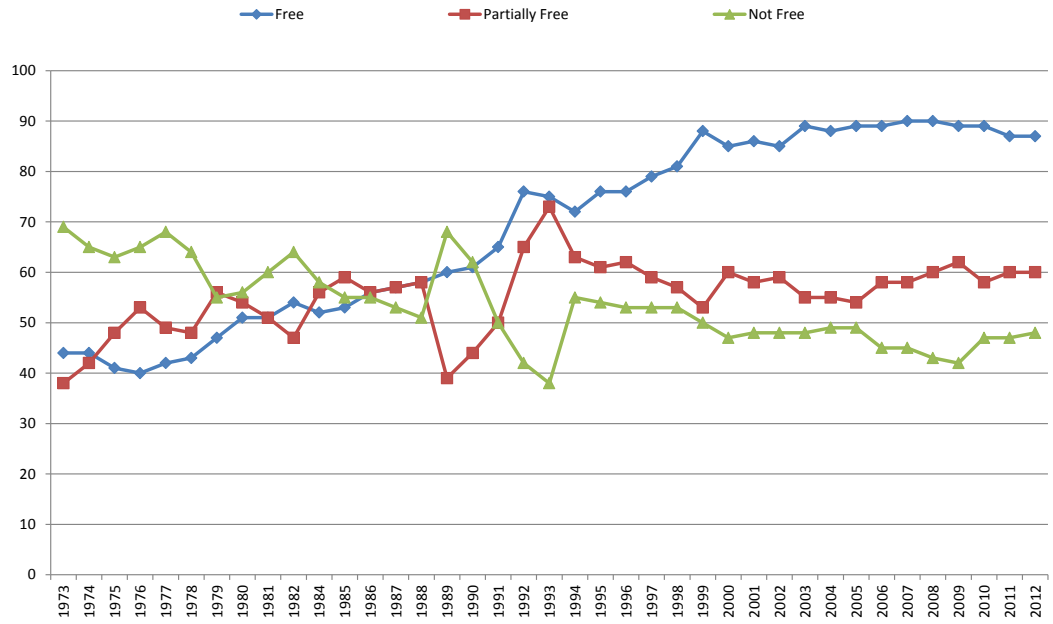
Whitney, Kathleen Marie (1996), 'SIN, FRAPH, and the CIA: U.S. Covert Action in Haiti, *Southwestern Journal of Law & Trade In The Americas*, Vol. 3, pp. 315-330.

Yao, Yang and Ninghua Zhong (2010), 'Unions Improve Chinese Workers' Welfare—Results from 1,268 Firms, China Center for Economics Research, No. E2010008.

[APPENDIX A:]

1)

Figure A1: World Freedom Trend: 1973-2012

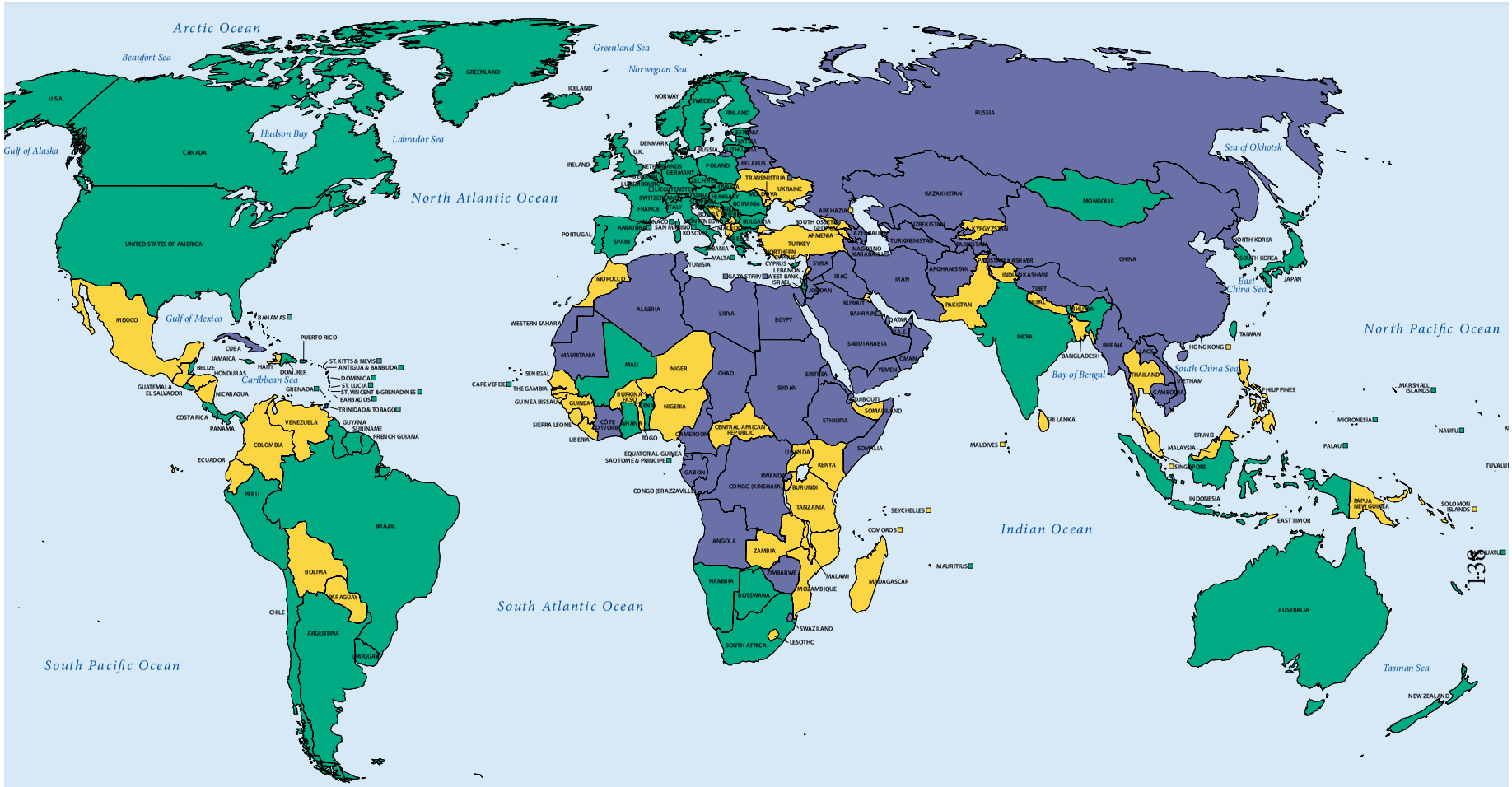


Source: Freedom House

2)

Figure A2: MAP OF FREEDOM 2011 (SOURCE: FREEDOM HOUSE)

(see next page)



Survey Findings

Freedom Status	Country Breakdown	Population Breakdown
FREE	87 (45%)	2,951,950,000 (43%)
PARTLY FREE	60 (31%)	1,487,000,000 (22%)
NOT FREE	47 (24%)	2,434,250,000 (35%)
TOTAL	194	6,873,200,000

The Map of Freedom reflects the findings of Freedom House's *Freedom in the World 2011* survey, which rates the level of political rights and civil liberties in 194 countries and 14 related and disputed territories during 2010. Based on these ratings, countries are divided into three categories: **Free**, **Partly Free**, and **Not Free**.

A Free country is one where there is broad scope for open political competition, a climate of respect for civil liberties, significant independent civic life, and independent media.

Partly Free countries are characterized by some restrictions on political rights and civil liberties, often in a context of corruption, weak rule of law, ethnic strife, or civil war.

A Not Free country is one where basic political rights are absent, and basic civil liberties are widely and systematically denied.

Freedom House is an independent nongovernmental organization that supports the expansion of freedom worldwide.

www.freedomhouse.org

[APPENDIX I:]

1) Proof: Suppose that citizen 2 raises the proposal, it is clear that the ruler will respond with $(T_1^r = -\mu, T_2^r = \mu)$. If citizen 1 chooses to accept the above tax new policy, then his expected continuation value is given by:

$$V_1^K(T_1) = 1 + \mu + \frac{\beta[(1-T_2)]}{1-\beta}. \quad (1.1^*)$$

Hence, citizen 1 will accept the new tax policy if and only if $(1.1^*) \geqslant \frac{1}{1-\beta}$, i.e., $T_1 \leqslant \frac{\mu(1-\beta)}{\beta}$. Since $T_1 \leqslant 1$ and $T_2 \leqslant \mu$, we can infer that if the ruler imposes positive tax on both of the citizens, the optimal sustainable tax policy for the ruler is given by:

$$(T_1 = min\{1, \frac{\mu(1-\beta)}{\beta}\}, T_2 = min\{\mu, \frac{1-\beta}{\beta}\})$$

2) *Prove Proposition 1.3.*

Proof: It is clear that $\frac{\mu(1-\beta)}{\beta} > 1$ if and only if $\beta < \frac{\mu}{1+\mu}$, and $\frac{1-\beta}{\beta} > \mu$ if and only if $\beta < \frac{1}{1+\mu}$. Therefore, if the ruler imposes $T > 0$ on both citizens, then:

i) when $\beta < \frac{1}{1+\mu}$, the optimal non-allying tax policy is: $(T_1 = 1, T_2 = \mu)$, and the payoff for the ruler in one period is given by:

$$T_1 + T_2 = 1 + \mu \quad (1.2^*)$$

ii) when $\frac{1}{1+\mu} \leqslant \beta < \frac{\mu}{1+\mu}$, the optimal non-allying tax policy is: $(T_1 = 1, T_2 = \frac{1-\beta}{\beta})$, and the payoff for the ruler in one period is given by:

$$T_1 + T_2 = \frac{1}{\beta} \quad (1.3^*)$$

iii) when $\beta \geqslant \frac{\mu}{1+\mu}$, the optimal non-allying tax policy is: $(T_1 = \frac{\mu(1-\beta)}{\beta}, T_2 = \frac{1-\beta}{\beta})$, and the payoff for the ruler in one period is given by:

$$T_1 + T_2 = \frac{(1+\mu)(1-\beta)}{\beta} \quad (1.4^*)$$

Firstly, it is clear that $(1.2^*) > \mu$ for any values of β and μ, therefore when $\beta < \frac{1}{1+\mu}$, the MPE tax policy is given by: $(T_1^e = 1, T_2^e = \mu)$.

Secondly, it is easy to show: $(1.3^*) \geqslant \mu$ if and only if $\beta \leqslant \frac{1}{\mu}$, and $\frac{1}{\mu} \geqslant \frac{\mu}{1+\mu}$ if and only if $\mu \leqslant \frac{1+\sqrt{5}}{2}$. Thus if $\mu \leqslant \frac{1+\sqrt{5}}{2}$, when $\frac{1}{1+\mu} \leqslant \beta < \frac{\mu}{1+\mu}$, we have $\beta \leqslant \frac{1}{\mu}$, thus the MPE tax policy is given by $(T_1^e = 1, T_2^e = \frac{1-\beta}{\beta})$; While if $\mu > \frac{1+\sqrt{5}}{2}$, when $\frac{1}{1+\mu} \leqslant \beta \leqslant \frac{1}{\mu}$, the MPE tax policy is given by $(T_1^e = 1, T_2^e = \frac{1-\beta}{\beta})$, and when $\frac{1}{\mu} < \beta < \frac{\mu}{1+\mu}$, the MPE tax policy is given by $(T_1^e = 0, T_2^e = \mu)$.

Lastly, it is clear that $(1.4^*) \geqslant \mu$ if and only if $\beta \leqslant \frac{1+\mu}{1+2\mu}$, where $\frac{\mu}{1+\mu} > \frac{1+\mu}{1+2\mu}$ if and only if $\mu > \frac{1+\sqrt{5}}{2}$. Therefore if $\mu \leqslant \frac{1+\sqrt{5}}{2}$, when $\frac{\mu}{1+\mu} \leqslant \beta \leqslant \frac{1+\mu}{1+2\mu}$, the MPE tax policy is given by $(T_1^e = \frac{\mu(1-\beta)}{\beta}, T_2^e = \frac{1-\beta}{\beta})$; and when $\beta > \frac{1+\mu}{1+2\mu}$, the MPE tax policy is given by: $(T_1^e = 0, T_2^e = \mu)$. While if $\mu > \frac{1+\sqrt{5}}{2}$, when $\beta \geqslant \frac{\mu}{1+\mu}$, the MPE tax policy is given by: $(T_1^e = 0, T_2^e = \mu)$.

3) *Prove Proposition 1.4*

Proof: Suppose that following the tax policy (T_1, T_2) announced by the ruler, citizen j raises the proposal and he is identified as the proposer. Observing the action taken by citizen j, the best response by the ruler is given by $(T_i^r = -1, T_j^r = 1)$. It is easy to show citizen i will choose to accept the new tax policy if and only if:

$$T_i \leqslant \frac{2(1-Q_i)-\beta}{\beta}, \quad (1.5^*)$$

Given $Q_1 = q$ and $Q_2 = 1-q$, we can derive:

$$T_1 \leqslant \frac{2(1-q)-\beta}{\beta} \equiv \hat{T}_1, \quad (1.6^*)$$

and

$$T_2 \leqslant \frac{2q-\beta}{\beta} \equiv \hat{T}_2, \quad (1.7^*)$$

It is obvious that given $\frac{1}{2} < q < 1$, we have $\hat{T}_2 > 0$, which means if the ruler chooses to ally with citizen 2, he can impose a positive tax $\hat{T}_2$ on him. In the previous subsections, if the ruler chooses to ally with a citizen, he imposes zero tax on this citizen, which means that there is no cost for a citizen to ally with the ruler. While in this subsection, in order to ally with the ruler, citizen 2 needs to pay some surplus to the ruler.

In the previous subsections, since a democracy will follow the collapse of the kleptocracy and the citizen will keep their own endowments, thus the expected loss to remove the ruler is zero for either of the citizens. Therefore, given a positive tax on citizen j, where $j = 1,2$, and conditional on that the proposal to remove the ruler would be accepted by citizen i, where $i \neq j$, citizen j will always opt for raising the proposal. While in this subsection, the collapse of the kleptocracy is followed by the state of anarchy, in which the expected loss for citizen 2, who is relatively weaker, is given by:

$$(1.6) - (1.1) = \frac{2q-1}{1-\beta}. \quad (1.8^*)$$

Therefore, citizen 2 will opt for supporting the ruler to sustain the kleptocracy, as long as the cost to ally with the ruler is relatively small, i.e., $T_2 \leqslant \hat{T}_2$. It is easy to show $\hat{T}_1 \geqslant 0$ if and only if:

$$q \leqslant 1 - \frac{\beta}{2} \equiv \hat{q}, \quad (1.9^*)$$

where $\frac{1}{2} < \hat{q} < 1$. Thus $\hat{T}_1 \geqslant 0$ when $q \leqslant \hat{q}$; while $\hat{T}_1 < 0$ when $q > \hat{q}$. Hence, when $q > \hat{q}$, if the ruler chooses to ally with citizen 1, he needs to provide at least $(-\hat{T}_1)$ unit of transfer to him. When $q \leqslant \hat{q}$, he can ally with citizen 1 by imposing

zero tax on him. It is easy to show given any value of q, the ruler can get higher payoff through allying with citizen 2, compared to allying with citizen 1. Hence, the optimal allying tax policies is given by:

$$(T_1 = 1, T_2 = \hat{T}_2),$$

given which,

$$C_R = \frac{2q}{\beta}. \quad (1.10^*)$$

When $q > \hat{q}$, we have $\hat{T}_1 < 0$, which implies that it is impossible for the ruler to sustainable the kleptocracy by imposing positive tax on citizen 1, hence, no non-allying tax policy would be sustainable along the equilibrium path. When $q \leqslant \hat{q}$, we have $\hat{T}_1 \geqslant 0$, the kleptocracy can be sustained by implementing the following optimal non-allying tax policy:

$$(T_1 = \hat{T}_1, T_2 = T_2^*),$$

where $T_2^* = min\{1, \hat{T}_2\}$. It is easy to show when $\beta > q$, we have $\hat{T}_2 \leqslant 1$, thus $T_2^* = \hat{T}_2$. Hence, when $q \leqslant \hat{q}$ and $\beta > q$, given the optimal non-allying tax policy $(T_1 = \hat{T}_1, T_2 = \hat{T}_2)$, we have:

$$C_R = \frac{2(1-\beta)}{\beta}. \quad (1.11^*)$$

When $\beta \leqslant q$, we have $\hat{T}_2 > 1$, thus $T_2^* = 1$. Hence, when $q \leqslant \hat{q}$ and $\beta \leqslant q$, given the optimal non-allying tax policy $(T_1 = \hat{T}_1, T_2 = 1)$, we have:

$$C_R = \frac{2(1-q)}{\beta}. \quad (1.12^*)$$

Given $\frac{1}{2} < q < 1$, we can derive: $(1.11^*) < (1.10^*)$ and $(1.12^*) < 1.10^*)$. There-

fore, If the collapse of the kleptocracy is followed by the state of anarchy, there is a unique MPE tax policy given by:

$$(T_1^e = 1, T_2^e = \frac{2q-\beta}{\beta}).$$

4) *Prove Lemma 2.3.*

Proof: Let's start with the subgame in which given the initial tax policy (T_1, T_2), citizen j, where $j = 1, 2$, has made a proposal to remove the ruler from power and been identified by the ruler as the proposer.

Firstly, let's check what is the best response by the ruler after citizen 2 is identified as the proposer, i.e., $p_{2,t} = 1$. Suppose that in period t, citizen 2 has been identified by the ruler as the proposer. After observing this, the ruler will respond by one of the following two revised tax policy: $(T_{1,t}^r = -1, T_{2,t}^r \leqslant 0)$ or $(T_{1,t}^r \leqslant 0, T_{2,t}^r = -\mu)$. If the first one is the best response by the ruler, it means that the ruler chooses to buy off citizen 2, given $p_{2,t} = 1$. Then condition on that the new tax policy in period t could be accepted by citizen 2, the payoffs for the ruler and him are given by the following two equations respectively:

$$V_{R,t}(T_{2,t}^r \leqslant 0 | p_{2,t} = 1, d_{2,t} = 0, .)$$

$$= (1 + T_{2,t}^r) + \beta E[V_{R,t+1}(T_{2,t}^r \leqslant 0 | p_{2,t} = 1, d_{2,t} = 0)] \quad (2.1^*)$$

$$V_{2,t}(d_{2,t} = 0 | p_{2,t} = 1, T_{2,t}^r \leqslant 0)$$

$$= \mu - T_{2,t}^r + \beta E[V_{2,t+1}(d_{2,t} = 0 | p_{2,t} = 1, T_{2,t}^r = 0)] \quad (2.2^*)$$

Given the new tax policy $(T^r_{1,t} = -1, T^r_{2,t} \leqslant 0)$, it is clear that citizen 2 can benefit from raising a proposal and being identified as the proposal, thus he will propose in all the following periods. Now suppose that in all the following periods, citizen 1 would never propose or be identified as the proposer after he proposes, and it is always citizen 2 who is identified as the proposer, or any period, after citizen 1 is identified as the proposer, the response by the ruler is still to buy off citizen 2. Then conditional on the new tax policy in each period could be accepted by citizen 2, the resulting expected continuation value for the ruler is given by :

$$V_{R,t}(T^r_{2,t} \leqslant 0 | p_{2,t} = 1, d_{2,t} = 0)$$

$$= (1 + T^r_{2,t}) + \beta[(1 + T^r_{2,t+1}) + \beta^2[(1 + T^r_{2,t+2})] + ...$$

$$= \frac{1}{1-\beta} + T^r_{2,t} + \beta T^r_{2,t+1} + \beta^2 T^r_{2,t+1} + ... \quad (2.3^*)$$

In period $t + x$, where $x \geqslant 1$, if citizen 1 is identified as the proposer, and the best response by the ruler is given by $(T^r_{1,t+x} \leqslant 0, T^r_{2,t+x} = \mu)$, it shows that for the ruler, no matter who is identified as the proposer, the best response by the ruler is always to buy off him. Thus in the stage game denoted by $\Gamma(\hat{K})$ at any period following period t, both citizens would propose and each of them has probability $\frac{1}{2}$ to be identified as the proposer. In period $t + y$, where $y > x$, if citizen 1 is identified as the proposer, then: $C_{R,t+y} = \mu + T^r_{1,t+y}$; while if citizen 2 is identified as the proposal, then: $C_{R,t+y} = 1 + T^r_{2,t+y}$. Now, suppose that in each period following period t, the best response by the ruler is always to buy off the citizen who is identified as the proposer. Conditional on the new tax policy could be accepted by the one identified as the proposer in each period, then in period t, if the ruler chooses to buy off citizen 2 after he is identified as the proposer, the expected payoff for the ruler is given by:

$$V_{R,t}(T^r_{2,t} \leqslant 0 | p_{2,t} = 1, d_{2,t} = 0) = (1 + T^r_{2,t}) + \beta[\frac{1}{2}(1 + T^r_{2,t+1}) + \frac{1}{2}(\mu + T^r_{1,t+1})]$$

$$+\beta^2[\frac{1}{2}(1 + T^r_{2,t+2}) + \frac{1}{2}(\mu + T^r_{1,t+2})] + ...$$

$$= [1 + \frac{\beta}{1-\beta}(\frac{1+\mu}{2})] + T^r_{2,t} + \frac{\beta}{2}(T^r_{1,t+1} + T^r_{2,t+1}) + \frac{\beta^2}{2}(T^r_{1,t+2} + T^r_{2,t+2}) \quad (2.4^*)$$

Now suppose that in period t, after citizen 2 is identified as the propose, the best response by the ruler is to buy off citizen 1 and punish citizen 2, i.e., $(T^r_{1,t} \leqslant 0, T^r_{2,t} = \mu)$. Then in all the following periods, citizen 2 would never raise proposal again. If the new tax policy in period t could be accepted by citizen 1, i.e., $d_{1,t} = 0$, the expected continuation value for the ruler and citizen 1 are given by:

$$V_{R,t}(T^r_{2,t} = \mu | p_{2,t} = 1, d_{1,t} = 0)$$

$$= (\mu + T^r_{1,t}) + \beta E[V_{R,t+1}(T^r_{2,t} = \mu | p_{2,t} = 1, d_{1,t} = 0)] \quad (2.5^*)$$

$$V_{1,t}(d_{1,t} = 0 | p_{2,t} = 1, T^r_{2,t} = \mu)$$

$$= (1 + T^r_{1,t}) + \beta E[V_{2,t+1}(d_{1,t} = 0 | p_{2,t} = 1, T^r_{2,t} = \mu)] \quad (2.6^*)$$

In period $t + 1$ and all the following periods, since citizen 2 would never propose again, if citizen 1 would not raise a proposal either, i.e., $p_{1,t+1} = 0$, the continuation value for citizen 1 is given by:

$$V_{1,t+1}(p_{1,t+1}=0|T_{1,t+1},p_{1,t+1}=0;p_{2,t}=1,T^r_{2,t}=\mu)$$

$$=\frac{1}{1-\beta}-T_{1,t+1}-\beta T_{1,t+2}-\beta^2 T_{1,t+3}-... \quad (2.7^*)$$

While in period $t+1$, if citizen 1 raises a proposal, since he is the only one who proposes, he would definitely be identified as the proposer, i.e., $p_{1,t+1}=1$. In this case if the best response by the ruler is to punish citizen 1 and buy off citizen 2, i.e., $(T^r_{1,t+1}=1,T^r_{2,t+1}\leqslant 0)$, it shows that in the stage game $\Gamma(\hat{K})$ at each period, the best response for the ruler is to always punish the one who is identified as the proposer. Thus in the stage game $\Gamma(\hat{K})$) at any period following period $t+1$, neither citizen 1 nor citizen 2 would propose again, hence the initial tax policy (T_1,T_2) would be sustained in all the following periods. Therefore given $(T^r_{1,t+1}=1,T^r_{2,t+1}\leqslant 0)$, if citizen 2 chooses to accept the new tax policy, i.e., $d_{2,t+1}=0$, the continuation value for him is given by:

$$V_{2,t+1}(d_{2,t+1}=0|p_{1,t+1}=1,T^r_{1,t+1}=1;p_{2,t}=1,T^r_{2,t}=\mu)$$

$$=\mu-T^r_{2,t+1}+\frac{\beta}{1-\beta}(\mu-T_2) \quad (2.8^*)$$

It is clear that citizen 2 would choose to accept the new tax policy if and only if $(2.8^*)\geqslant\frac{\mu}{1-\beta}$, i.e., $T^r_{2,t+1}\leqslant\frac{-\beta T_2}{1-\beta}$. Since $T^r_{2,t+1}\geqslant -1$, it is clear that (T_1,T_2) is sustainable if and only if $\frac{\beta T_2}{1-\beta}\leqslant 1$. let $T^r_{2,t+1}=\frac{-\beta T_2}{1-\beta}$, we can derive that condition on $\frac{\beta T_2}{1-\beta}\leqslant 1$, the new tax policy $(T^r_{1,t+1}=1,T^r_{2,t+1}=\frac{-\beta T_2}{1-\beta})$ would be accepted by citizen 2, thus the ruler's payoff in period $t+1$ is given by:

$$V_{R,t+1}(T^r_{1,t+1}=1|p_{1,t+1}=1,d_{2,t+1}=0;p_{2,t}=1,T^r_{2,t}=\mu)=1+\frac{\beta}{1-\beta}T_1 \quad (2.9^*)$$

However, if in period $t+1$, after citizen 1 is identified as the proposer, the ruler chooses to buy off him, it shows that no matter who is identified as the proposer, the best response for the ruler is always to buy off citizen 1, thus in all the following periods, citizen 2 would always refrain from proposing, while citizen 1 would always propose as long as $T_1 > 0$. Thus if citizen 1 chooses to accept the new tax policy, then in period $t+1$, the payoffs for the ruler and citizen 1 are given by:

$$V_{R,t+1}(T^r_{1,t+1} = 0 | p_{1,t+1} = 1, d_{1,t+1} = 0; p_{2,t} = 1, T^r_{2,t} = \mu)$$

$$= \mu + T^r_{1,t+1} + \beta(\mu + T^r_{1,t+2}) + \beta^2(\mu + T^r_{1,t+3}) + ... \quad (2.10^*)$$

$$V_{1,t+1}(d_{1,t+1} = 0 | p_{1,t+1} = 1, T^r_{1,t+1} = 0; p_{2,t} = 1, T^r_{2,t} = \mu)$$

$$= 1 - T^r_{1,t+1} + \beta(1 - T^r_{1,t+2}) + \beta^2(1 - T^r_{1,t+3}) + ... \quad (2.11^*)$$

It is clear that $T^r_{1,t+1} = T^r_{1,t+2} = T^r_{1,t+3} = ... = T^r_1$, thus we have:

$$V_{1,t+1}(d_{1,t+1} = 0 | p_{1,t+1} = 1, T^r_{1,t+1} = 0; p_{2,t} = 1, T^r_{2,t} = \mu) = \frac{1}{1-\beta}(1 - T^r_1) \quad (2.12^*)$$

It is obvious that citizen 1 would chooses to accept the new tax policy if and only if: $(2.12) \geqslant \frac{1}{1-\beta}$, i.e., $T^r_1 \geqslant 0$. Let $T^r_1 = 0$ and substitute into equation (2.12), we can derive that:

$$V_{R,t+1}(T^r_{1,t+1} = 0, . | p_{1,t+1} = 1, d_{1,t+1} = 0; p_{2,t} = 1, T^r_{2,t} = \mu) = \frac{\mu}{1-\beta} \quad (2.13^*)$$

Since $T_1 \leqslant 1$, it is obvious that $\frac{k}{1-\beta} > 1 + \frac{\beta}{1-\beta} T_1$ i.e.: $(2.13^*) > (2.9^*)$. This inequality means that if citizen 2 is punished for raising a proposal in period t, then in period $t+1$, it is a dominant strategy for the ruler to buy off citizen 1 after he is identified as the proposer. This follows that if citizen 2 is punished for proposing in period t , then in period $t+1$ and all the following periods, it is a dominant strategy for citizen 1 to raise the proposal as long as $\tau_1 > 0$, thus we can derive that:

$$E[V_{R,t+1}(T^r_{2,t} = \mu | p_{2,t} = 1, d_{1,t} = 0)] = \frac{\mu}{1-\beta} \quad (2.14^*)$$

$$E[V_{1,t+1}(d_{1,t} = 0 | p_{2,t} = 1, T^r_{2,t} = \mu)] = \frac{1}{1-\beta} \quad (2.15^*)$$

Combining (2.5^*), $(2.6)^*$, $(2.14)^*$ and $(2.15)^*$, we can derive:

$$V_{R,t}(T^r_{2,t} = \mu | p_{2,t} = 1, d_{1,t} = 0; p_{2,t} = 1)$$

$$= (k + T^r_{1,t}) + \beta(\frac{k}{1-\beta}) \quad (2.16^*)$$

$$V_{1,t}(d_{1,t} = 0 | p_{2,t} = 1, T^r_{2,t} = k; p_{2,t} = 1, T^r_{2,t} = \mu)$$

$$= (1 - T^r_{1,t}) + \beta(\frac{1}{1-\beta}) \quad (2.17^*)$$

It is clear that in period t, citizen 1 would choose to accept the new tax policy if and only if $(2.15^*) \geqslant \frac{1}{1-\beta}$, thus we have $T^r_{1,t} \geqslant 0$. Let $T^r_{1,t} = 0$ and substitute into the above two equations, we can derive:

$$V_{R,t}(T^r_{2,t} = \mu | p_{2,t} = 1, d_{1,t} = 0, .) = \frac{\mu}{1-\beta} \quad (2.18^*)$$

$$V_{1,t}(d_{1,t}=0|p_{2,t}=1,T^r_{2,t}=\mu)=\frac{1}{1-\beta} \quad (2.19^*)$$

It is obvious that $(2.18^*) > (2.3^*)$ and $(2.18^*) > (2.4^*)$. The above analysis shows that given any initial tax policy (T_1,T_2) in a period, after citizen 2 is identified as the proposer, it is a dominant strategy for the ruler to punish him and buy off citizen 1. Hence anticipating the response from the ruler, citizen 2 would never raise a proposal to remove the ruler from power. Similar to the above analysis, we may infer that if citizen 1 proposes and is identified as the proposer, then the best response by the ruler is always to buy off him, thus anticipating the response from the ruler, citizen 1 will always propose as long as $T_1 > 0$.

5) *Prove Lemma 3.1.*

Proof: Given any uniform tax policy:

$$T_{m+1}=T_{m+2}=...=T_{\frac{n+3}{2}}=T_B \leqslant 1$$

The problem of maximizing the total tax revenue from the non-ally group is given by:

$$\underset{m,(T_1,...,T_n)}{Max} \ \Pi=\sum_{i=m+1}^{\frac{n+3}{2}} T_i$$

$$s.t. \ \ T_i \leqslant \frac{1-\beta}{\beta}(-T^r_B), \text{ where } T^r_B=-\frac{W}{\frac{n+1}{2}-m}$$

$$\text{and } T_i \leqslant 1 \text{ for } \ i=m+1,m+2,...,\frac{n+3}{2}$$

It is clear that T_i that maximize Π is given by $T^*_i=min\{1,\frac{1-\beta}{\beta}(\frac{W}{\frac{n+1}{2}-m})\}$. When:

$$\frac{1-\beta}{\beta}W \geqslant \frac{n+1}{2} - m,$$

the optimal uniform tax policy imposed on the non-ally group could be sustained along the equilibrium path is given by:

$$T^*_{m+1} = T^*_{m+2} = ... = T^*_{\frac{n+3}{2}} = 1$$

It is obvious that this uniform tax policy dominates any non-uniform tax that could be imposed on the non-ally group. Now let's consider the case that $\frac{1-\beta}{\beta}W < \frac{n+1}{2} - m$. In this case, the optimal uniform tax policy is given by:

$$T^*_{m+1} = T^*_{m+2} = ... = T^*_{\frac{n+3}{2}} = T_B = \frac{1-\beta}{\beta}(-T^r_B) < 1,$$

given which, the total tax revenue from the non-ally group is given by:

$$\Pi = (\frac{n+3}{2} - m)T_B$$

Now suppose that the ruler chooses a citizen l from the non-ally group, where $l = m+1, m+2, ..., \frac{n+3}{2}$, and set $\tilde{T}_l = T_B + \sigma$ on him, where $\sigma > 0$ and $\sigma \to 0$. The ruler imposes uniform tax on the rest $(\frac{n+1}{2} - m)$ citizens, denoted by $\bar{T} > 0$. Then given the non-uniform tax policy: $\tilde{T}_l$ on citizen l and $\bar{T}$ on the rest $(\frac{n+1}{2} - m)$ citizens, the ruler must ensure that he can raise a new tax policy to buy off $(\frac{n+1}{2} - m)$ citizens, after he is challenged.

If citizen l raises the proposal, the ruler will set $T^r_l = 1$, and in order to buy off the rest $(\frac{n+1}{2} - m)$ citizens in the non-ally group, the ruler will set $T^r_i = T^r_B$ on each of them, where $i \neq j$; while if any other citizen k, where $k \neq j$, from the non-ally group raises the proposal, the ruler will set $T^r_k = 1$ on this citizen, and in order to buy off all the rest $(\frac{n+1}{2} - m)$ citizens, the ruler will set $T^r_l = -(-T^r_B + \frac{\beta\sigma}{1-\beta})$ on citizen l, and

set $T_i^r = -(-T_B^r - \frac{\frac{\beta\sigma}{1-\beta}}{\frac{n+1}{2}-m-1})$ on the rest citizens, where $i \neq j,k$. Since:

$$min\{-T_B^r, (-T_B^r - \frac{\frac{\beta\sigma}{1-\beta}}{\frac{n+1}{2}-m-1})\} = -T_B^r - \frac{\frac{\beta\sigma}{1-\beta}}{\frac{n+1}{2}-m-1},$$

to ensure that whoever raises the proposal, the ruler can always buy off $\frac{n+1}{2}-m$ citizens, the lump-sum tax $\bar{T}$ must satisfy the following constraint:

$$\bar{T} \leqslant \frac{1-\beta}{\beta}(-T_B^r - \frac{\frac{\beta\sigma}{1-\beta}}{\frac{n+1}{2}-m-1}) = T_B - \frac{\sigma}{\frac{n+1}{2}-m-1},$$

where $T_B - \frac{\sigma}{\frac{n+1}{2}-m-1} < T_B < 1$. Thus the optimal tax is given by $\bar{T} = T_B - \frac{\sigma}{\frac{n+1}{2}-m-1}$. Therefore, if the ruler raises T_l from T_B to $T_B + \sigma$, the total tax revenue from the non-ally group is given by:

$$\tilde{\Pi} = (T_B + \sigma) + [T_B - \frac{\sigma}{\frac{n+1}{2}-m-1}](\frac{n+1}{2} - m)$$

$$= (\frac{n+3}{2} - m)T_B - \frac{\sigma}{\frac{n+1}{2}-m-1} < \Pi,$$

which shows that if the ruler raises the tax on citizen l from T_B to $T_B + \sigma$, this will lead a decrease in the total tax revenue from the non-ally group. Similarly, we can show if the ruler reduces the tax on citizen l from T_B to $\tilde{T}_l = T_B - \sigma$, the optimal tax on the rest citizens in the non-ally group would be given by T_B. Hence, the total tax revenue from the non-ally group is given by:

$$\tilde{\Pi} = (T_B - \sigma) + (\frac{n+1}{2} - m)T_B$$

$$= (\frac{n+3}{2} - m)T_B - \sigma < \Pi,$$

which shows that if the ruler reduces the tax on citizen l from T_B to $T_B - \sigma$,

this will also lead a decrease in the total tax revenue. Therefore, given the optimal uniform tax policy, on matter the ruler raises or reduces the tax on any one of the citizens in the non-ally group, the total tax revenue will drop.

Now, suppose that the ruler raises the tax on h citizens in the non-ally group, and imposed uniformed decreased tax $\bar{T}_g$ on the rest g citizens, where $h+g=\frac{n+3}{2}-m$. Here, denote the tax on the h citizens by $\tilde{T}_i = T_B+\sigma_i$, where $i=m+1,m+2,...,m+h$, and $\sigma_i \geqslant 0$ and at least one of them is large than 0; Now rearrange those h citizens as the first h citizens in the non-ally group. Given the above tax policy, the total tax revenue is given by:

$$\tilde{\Pi} = \Pi_h + \Pi_g,$$

where $\Pi_h = \sum_{i=m+1}^{m+h} \tilde{T}_i$ and $\Pi_g = g\bar{T}_g$. Similar to the above reasoning process, we can show the optimal uniform tax $\bar{T}_g$ is given by:

$$\bar{T}_g = T_B - \frac{1}{\frac{n+1}{2}-m-h}(\sum_{i=m+1}^{m+h}\sigma_i).$$

Hence, given the new tax policy, the total tax revenue from the non-ally group is given by:

$$\Pi_h+\Pi_g = hT_B + (\sum_{i=m+1}^{m+h}\sigma_i) + [T_B - \frac{1}{\frac{n+1}{2}-m-h}(\sum_{i=m+1}^{m+h}\sigma_i)](\frac{n+3}{2}-m-h)$$

$$= (\frac{n+3}{2}-m)T_B - \frac{1}{\frac{n+1}{2}-m-h}(\sum_{i=m+1}^{m+h}\sigma_i),$$

where $\Pi_h+\Pi_g < \Pi$, which shows that the total revenue decreases, if the ruler raises that tax on h citizen, and imposes a decreased uniform tax on the rest g citizens.

If the ruler repeats the above tax changing procedure on those g citizens, similarly,

we can show given the new tax policy, the tax revenue from those g citizens will decrease. This procedure can be repeated to raise or reduce the tax on any number of the citizens in the non-allying group, while the total revenue from the non-ally group is always less than that from the uniform tax policy.

Therefore, Given any value of m, the tax policy maximizing the total tax revenue from the non-ally group is given by a uniform tax policy:

$$T_{m+1} = T_{m+2} = ... = T_{\frac{n+3}{2}} = T_B, \text{ where } T_B = min\{1, \frac{1-\beta}{\beta}(\frac{W}{\frac{n+1}{2} - m})\}.$$

6) *prove:* $\frac{m}{m-\frac{n+1}{2}} < 0$ *when* $m < \hat{m}$.

Proof: it is clear that:

$$\frac{n+1}{2} - \hat{m} = \frac{n+1}{2} - \frac{2\beta n - (n-1)}{2\beta} = \frac{(n-1)(1-\beta)}{2\beta} > 0$$

Hence, $\frac{n+1}{2} > \hat{m}$. Given $m < \hat{m}$, we always have $m < \frac{n+1}{2}$. Therefore, $\frac{m}{m-\frac{n+1}{2}} < 0$.

7) Prove Proposition 3.3

Proof: Given $m < \hat{m}$, we can derive:

$$\frac{\partial \Pi_N}{\partial T_A} = \frac{m}{m - \frac{n+1}{2}} < 0,$$

which means when $m < \hat{m}$, the ruler can always increase the total tax revenue along the equilibrium path by increasing the transfer to the citizens in the ally group. It is easy to show $\hat{T}_A > \tilde{T}_A$ if and only if:

$$m > \frac{2\beta n - (n-1)}{2} \equiv \tilde{m}, \quad (3.1^*)$$

where $0 < \tilde{m} < \hat{m}$. Let $int(\tilde{m}) = M_1$. Suppose $m = M_1$, we have $m \leqslant \tilde{m}, \hat{m}$, thus $\hat{T}_A \leqslant \tilde{T}_A$. Then given $m = M_1$, T_A that maximizes Π_N is given by:

$$T_A^* = \tilde{T}_A,$$

given which,

$$T_B = (\frac{1-\beta}{\beta})[\frac{\frac{n-1}{2} + M_1}{\frac{n+1}{2} - M_1}] \equiv \tilde{T}_B; \quad (3.2^*)$$

and,

$$\Pi_N = \frac{1-\beta}{\beta}[\frac{n-1}{2} + \frac{\frac{n-1}{2} + M_1}{\frac{n+1}{2} - M_1}] \equiv \tilde{\Pi}_N. \quad (3.3^*)$$

Now suppose $m = M_1 + 1$. Given the constraint $m \leqslant \hat{m}$, it could be a solution to the above maximization if and only if $M_1 + 1 \leqslant \hat{m}$, i.e., $M_1 \leqslant \hat{m} - 1$, which gives:

$$M_1 \leqslant \frac{(2\beta - 1)(n-1)}{2\beta} = \hat{M}_1 \quad (3.4^*)$$

When $M_1 \leqslant \hat{M}_1$, we have $\tilde{m} < m \leqslant \hat{m}$, thus $\hat{T}_A > \tilde{T}_A$. Then given $m = M_1 + 1$, T_A that maximizes Π_N is given by:

$$T_A^* = \hat{T}_A = -[\frac{2\beta n - (n-1)}{2\beta(M_1 + 1)} - 1] \equiv \hat{T}_A', \quad (3.5^*)$$

where $\hat{T}_A' > -\frac{1-\beta}{\beta}$, and given $T_A^* = \hat{T}_A'$, we have:

$$T_B = 1;$$

and,

$$\Pi_N = -\frac{2\beta n - (n-1)}{2\beta} + \frac{n+3}{2} \equiv \hat{\Pi}_N. \quad (3.6^*)$$

Given the solution vector $\{m = M_1, T_A^* = \tilde{T}_A\}$, it is impossible to raise Π_N by increasing T_A or decreasing m, and the only possible way to raise Π_N is to increase m. When $M > \hat{M}$, $m = M_1 + 1$ is not a valid solution to the above maximization problem, thus it is impossible to increase Π_N by increasing m from M_1 to $(M_1 + 1)$. Therefore, we can infer that when $M_1 > \hat{M}_1$, the optimal solution vector is given by:

$$\{m^* = M_1, T_A^* = \tilde{T}_A\}$$

When $M_1 \leqslant \hat{M}_1$, $\{m = M_1 + 1, T_A^* = \hat{T_A'}\}$ is a valid solution vector to the above maximization problem. Given $\{m = M_1 + 1, T_A^* = \hat{T_A'}\}$, it is impossible to raise Π_N by increasing T_A or m. The only possible way to raise Π_N is to decrease m. If we decrease m from $(M_1 + 1)$ to M_1, the solution vector is given by $\{m = M_1, T_A^* = \tilde{T}_A\}$. Based on the above analysis, we can infer that when $M_1 \leqslant \hat{M}_1$, the optimal solution vector that maximizes Π_N is given by either $\{m = M_1, T_A^* = \tilde{T}_A\}$ or $\{m = M_1 + 1, T_A^* = \hat{T_A'}\}$, depending on the relative values of $\tilde{\Pi}_N$ and $\hat{\Pi}_N$. Let $\hat{\Pi}_N \geqslant \tilde{\Pi}_N$, which gives:

$$-\frac{2\beta n - (n-1)}{2\beta} + \frac{n+3}{2} \geqslant \frac{1-\beta}{\beta}\left[\frac{n-1}{2} + \frac{\frac{n-1}{2} + M}{\frac{n+1}{2} - M}\right]$$

$$M \leqslant \frac{2\beta n - (n-1)}{2} = \tilde{m}$$

Hence, given $M \leqslant \tilde{m}$, we always have: $\hat{\Pi}_N \geqslant \tilde{\Pi}_N$. Therefore, when $M_1 \leqslant \hat{M}_1$, the optimal solution vector is given by:

$$\{m^* = M_1 + 1, T_A^* = \hat{T_A'}\}$$

When $M_1 > \hat{M}_1$, the optimal solution vector is $\{m^* = M_1, T_A^* = \tilde{T}_A\}$, which means that the ruler will put M_1 citizens in the ally group, and the average amount of transfer to each citizen in this group is given by $\frac{1-\beta}{\beta}$. This implies that the ruler will provide a uniform equilibrium transfer $\frac{1-\beta}{\beta}$ to M_1 citizens in the ally group, i.e.: $T_1 = T_2 =$

$\ldots = T_m = -\frac{1-\beta}{\beta}$.

When $M_1 \leqslant \hat{M}_1$, the optimal solution vector is $\{m^* = M_1 + 1, T_A^* = \hat{T}_A'\}$, which means that the ruler will put $(M_1 + 1)$ citizens in the ally group, and the average transfer is given by $|\hat{T}_A'| < \frac{1-\beta}{\beta}$. Since a citizen in the ally group will never raise a proposal to remove the ruler from power, we can infer that any of the tax policy on the ally group in the following policy vector can be sustained along the equilibrium path: $\Phi_1 = \{(T_1, T_2, \ldots, T_m) | \sum_{j=1}^{m} T_j = (M_1 + 1)\hat{T}_A' \text{ and } -\frac{1-\beta}{\beta} \leqslant T_j \leqslant 0\}$.

Base on the above analysis, we can derive Proposition 3.3.

8)

Table I.1: Numerical Examples

Number of Citizens / Discount Factor β	n=3	n=4	n=5
$^1/_3$	(1, 1, 1) (1*, $-\frac{1}{2}$, $-\frac{1}{2}$)	(1, 1, 1, 1) (1*, 1, $-\frac{1}{2}$, $-\frac{1}{2}$)	(1, 1, 1, 1, 1) (1*, 1, $-\frac{1}{2}$, $-\frac{1}{2}$, $-\frac{1}{2}$)
$^7/_{12}$	($-\frac{2}{7}$, 1, 1) ($\frac{2}{5}$, 1*, $-\frac{7}{5}$)	($\frac{5}{7}$, $\frac{5}{7}$, $\frac{5}{7}$, 1) (1*, -1, -1, 1)	($-\frac{4}{7}$, 1, 1, 1, 1) ($\frac{4}{5}$, 1*, $-\frac{7}{5}$, $-\frac{7}{5}$, 1)
$^2/_3$	($-\frac{1}{2}$, 1, 1) (1, 1*, -2)	(0, 1, 1, 1) (0, 1*, -2, 1)	(0, 0, 1, 1, 1) (0, 0, 1*, -2, 1)
$^4/_5$	($-\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{2}$) (1, 1*, -2)	($-\frac{1}{4}$, $\frac{3}{4}$, $\frac{3}{4}$, 1) (1, 1*, -3, 1)	($-\frac{1}{4}$, $-\frac{1}{4}$, 1, 1, 1) (1, 1, 1*, -4, 1)

Note: in each cell of the above table, the first tax policy is the MPE tax policy, and the second one is the off-equilibrium revised tax policy to sustain the kleptocracy. The number with '*' is the revised tax imposed on the citizen who is identified as the proposal.

9) *The analytical result when n is an even number:*

Given n is an even number,

a) When $\beta \leqslant \frac{1}{2}$, the MPE tax policy is given by:

$$T_1^e = T_2^e = ... = T_n^e = 1;$$

b) When $\beta > \frac{1}{2}$, i) if $M_2 > \hat{M}_2$, where $M_2 = int(\frac{n(2\beta-1)}{2})$ and $\hat{M}_2 = \frac{2\beta(n-1)-n}{2\beta}$, the MPE tax policy is given by any tax policy that satisfies the following condition: the tax on $(\frac{n}{2}-1)$ citizens is one; the tax on M_2 citizens is $(-\frac{1-\beta}{\beta})$ and the tax on $(\frac{n}{2}+1-M_2)$ citizens is $\frac{1-\beta}{\beta}(\frac{n+2M_2}{n-2M_2})$;

ii) if $M_2 \leqslant \hat{M}_2$, the MPE tax policy is given by any tax policy that satisfies the following condition: the tax on $(n-M_2-1)$ citizens is one; rearrange the rest (M_2+1) citizens as the first (M_2+1) citizens, then the tax policy on these (M_2+1) citizens falls in the following policy vector: $\Phi_2 = \{(T_1, T_2, ..., T_{M_2+1}) | \sum_{j=1}^{M_2+1} T_j = (M_2+1)\hat{T_A''}$ and $-\frac{1-\beta}{\beta} \leqslant T_j \leqslant 0\}$, where, $\hat{T_A''} = -[\frac{n(2\beta-1)}{2\beta(M_2+1)} - 1]$.

Please refer to Appendix I.8 for numerical examples.

10) *Prove Proposition 4.1:*

Proof: Suppose that following the tax policy (T_1, T_2) announced by the ruler, citizen j, where $j = 1, 2$, raises the proposal and he is identified as the proposer. Observing the action taken by citizen j, the best response by the ruler is given by $(T_i^r = -1, T_j^r = 1)$. It is easy to show citizen i will choose to accept the new tax policy if and only if:

$$T_i \leqslant \frac{1-\beta-\theta}{\beta} \equiv T^B, \quad (4.1^*)$$

where $T^B \geqslant 0$ if and only if:

$$\theta \leqslant 1-\beta \equiv \hat{\theta}; \quad (4.2^*)$$

and $T^B \geqslant -1$ if and only if:

$$\theta \leqslant 1. \quad (4.3^*)$$

Base on inequality 4.2^*, we can infer that when $\theta \leqslant \hat{\theta}$, we have $T^B \geqslant 0$, hence, the ruler can ally with a citizen and prevent him from supporting the proposal by imposing zero tax on him in each period; while if $\theta > \hat{\theta}$, we have $T^B < 0$, thus in order to ally with a citizen and prevent him from supporting the proposal, the ruler must provide $(-T^B)$ unit of surplus in each period. Inequality 4.3^* implies that because the maximum amount of transfer could be provided by the ruler is one, an allying tax policy would not be applicable when $\theta > 1$. When $\theta \leqslant 1$, the kleptocracy could be sustained by either of the two optimal allying tax policies in the following policy vector:

$$\{(T_1 = 1, T_2 = T^*), (T_1 = T^*, T_2 = 1)\},$$

where $T^* = min\{0, T^B\}$. When $\theta \leqslant \hat{\theta}$, we have $T^B \geqslant 0$, hence $T^* = 0$. Then given either of the optimal allying tax policies, we have:

$$C_R = 1 \quad (4.4^*)$$

When $\hat{\theta} < \theta \leqslant 1$, we have $T^B < 0$, thus $T^* = T^B$. Then given either of the optimal allying tax policies,

$$C_R = \frac{1-\theta}{\beta} \equiv \hat{C}_R^B, \quad (4.5^*)$$

where $\hat{C}_R^B \geqslant 0$. Since $\frac{\partial \hat{C}_R^B}{\partial \theta} = -\frac{1}{\beta} < 0$, this shows that $\hat{C}_R^B$ is monotonically decreasing on θ. Because when $\hat{\theta} < \theta \leqslant 1$, if the ruler adopts either of the optimal allying tax policies, the increase in the expected bonus for removing the ruler will raise the cost to ally with one of the citizens, thus decreasing the payoff for the ruler.

It is easy to show the optimal non-allying tax policy for the ruler is given by:

$$(T_1 = T_2 = \frac{1-\beta-\theta}{\beta}),$$

given which,

$$C_R = \frac{2(1-\beta-\theta)}{\beta} \equiv \tilde{C}_R^B, \quad (4.6^*)$$

where $\tilde{C}_R^B \geqslant 0$ if and only if $\theta < \hat{\theta}$. This means that the above non-allying tax policy is sustainable if and only if $\theta < \hat{\theta}$. Since $\frac{\partial \tilde{C}_R^B}{\partial \theta} = -\frac{2}{\beta} < 0$, this shows that $\tilde{C}_R^B$ is monotonically decreasing on θ. Because if the ruler adopts the optimal non-allying tax policy, the increase in the expected bonus will decrease the tax imposed on both citizens, thus decreasing his payoff. It is clear that $\tilde{C}_R^B \leqslant 1$ if and only if:

$$\theta \geqslant \frac{2-3\beta}{2} \equiv \tilde{\theta}, \quad (4.7^*)$$

where $\tilde{\theta} < \hat{\theta}$, and it is clear that $\hat{\theta} > 0$ if and only if $\beta < \frac{2}{3}$. Hence, when $\theta \leqslant \hat{\theta}$ and $\beta \geqslant \frac{1}{3}$, we always have $\theta > \tilde{\theta}$, thus $\tilde{C}_R^B < 1$, which means the optimal allying tax policy dominates the optimal non-allying tax policy; When $\tilde{\theta} \leqslant \theta \leqslant \hat{\theta}$ and $\beta < \frac{2}{3}$, we have $\tilde{C}_R^B \leqslant 1$, thus the former weakly dominates the latter; When $\theta < \tilde{\theta}$ and $\beta < \frac{2}{3}$, we have $\tilde{C}_R^B > 1$, hence, the latter is a dominant strategy. Therefore, we can derive proposition 4.1.

11) *Prove Proposition 4.2*

Proof: Now suppose following the tax policy (T_1, T_2), announced by the ruler, citizen j, where $j = 1,2$, has made a proposal to remove the ruler and he is identified as the proposer. Since the cost to sustain the kleptocracy is given by Z, the maximum transfer could be provided by the ruler is $(1-Z)$ unit of surplus. If given (T_1, T_2) and the new tax policy $(T_j^r = 1, T_i^r = -(1-Z))$ announced by the ruler, citizen i, where

$i \neq j$, declines the proposal, the continuation value for citizen i is given by:

$$V_i^K = 2 - Z + \frac{\beta[(1-T_i) + \lambda(1-T_j)]}{1-\beta}. \quad (4.8^*)$$

It is clear that citizen i will decline the proposal if and only if $(4.8^*) \geqslant (4.4)$, which gives:

$$T_i \leqslant \frac{1}{\beta}[(1-\beta)(1-\lambda-Z) - \lambda\beta T_j] \equiv T^A. \quad (4.9^*)$$

Now suppose (T_1, T_2) is an allying tax policy. Let $T_j = 1$, and substitute it into inequality 4.9^*, we can derive:

$$T_i \leqslant \frac{(1-\beta)(1-Z) - \lambda}{\beta} \equiv \hat{T^A} \quad (4.10^*)$$

where $\hat{T^A} \geqslant 0$ if and only if:

$$\lambda \leqslant (1-\beta)(1-Z) \equiv \lambda^m, \quad (4.11^*)$$

and $\hat{T^A} \geqslant -(1-Z)$ if and only if:

$$\lambda \leqslant 1 - Z \equiv \lambda^h, \quad (4.12^*)$$

where $0 < \lambda^m < \lambda^h < 1$. Based on the above analysis, we can infer that an allying tax policy could be implemented by the ruler if and only if $\lambda \leqslant \lambda^h$. When $\lambda^m < Z \leqslant \lambda^l$, the optimal allying tax policy is given by either one in the following policy vector:

$$\{(T_1 = \hat{T^A}, T_2 = 1), (T_1 = 1, T_2 = \hat{T^A})\}$$

given which:

$$C_R = \frac{1-Z-\lambda}{\beta} \equiv \hat{C}_R^A. \quad (4.13^*)$$

It is clear $\hat{C}_R^A \geqslant 0$ if and only if $\lambda \leqslant \lambda^h$, which means the above allying tax policies are sustainable if and only if $\lambda \leqslant \lambda^h$. When $\lambda \leqslant \lambda^m$, the optimal allying tax policy is given by either one in the following policy vector:

$$\{(T_1 = 0, T_2 = 1), (T_1 = 1, T_2 = 0)\}$$

given which:

$$C_R = 1 - Z, \quad (4.14^*)$$

It is clear when $\lambda > \lambda^m$, it is impossible for the ruler to sustain the kleptocracy by any non-allying tax policy. When $\lambda \leqslant \lambda^m$, the optimal non-allying optimal tax policy is given by:

$$(T_1 = T_2 = \hat{T^A}).$$

given which,

$$C_R = \frac{2[(1-\beta)(1-Z)-\lambda]}{\beta} - Z \equiv \tilde{C}_R^A. \quad (4.15^*)$$

It is easy to show $\tilde{C}_R^A \geqslant 0$ if and only if:

$$\lambda \leqslant 1 - \beta - \frac{2-\beta}{2} Z \equiv \lambda^*, \quad (4.16^*)$$

where $\lambda^* < \lambda^m$, and $\lambda^* > 0$ if and only if:

$$Z < \frac{2-2\beta}{2-\beta} \equiv \hat{Z}, \quad (4.17^*)$$

where $0 < \hat{Z} < 1$. Hence, we can infer that the optimal allying tax policy is sustainable if and only if $Z < \hat{Z}$ and $\lambda \leqslant \lambda^*$, i.e., the cost to sustain the regime is relatively small and the degree of altruism is relatively low; Otherwise, when $Z \geqslant \hat{Z}$, or $Z < \hat{Z}$ and $\lambda > \lambda^*$, it is impossible for the ruler to sustain the regime by any allying tax policy. Since $\frac{\partial \hat{T^A}}{\partial \lambda} = -\frac{1}{\beta} < 0$, this implies that when $Z < \hat{Z}$ and $\lambda \leqslant \lambda^*$, given the optimal non-allying tax policy, the higher the degree of altruism, the less surplus could be extracted from each of them. When $Z < \hat{Z}$ and $\lambda \leqslant \lambda^*$, if the ruler opts for the optimal allying tax policy, his payoff in a period is $(1-Z)$, while if he chooses the optimal non-allying tax policy, his payoff in a period is $\tilde{C}_R^A$. It is easy to show that when $Z < \hat{Z}$ and $\lambda \leqslant \lambda^*$, $\tilde{C}_R^A > 1 - Z$ if and only if:

$$\lambda < (1-\beta)(1-Z) - \frac{\beta}{2} \equiv \lambda^l, \quad (4.18^*)$$

where $\lambda^l < \lambda^*$, and $\lambda^l > 0$ if and only if:

$$Z < \frac{1 - \frac{3}{2}\beta}{1-\beta} \equiv \tilde{Z}, \quad (4.19^*)$$

where $\tilde{Z} < \hat{Z}$, and $\tilde{Z} > 0$ if and only if $\beta < \frac{2}{3}$. Therefore, we can infer that the ruler will opt for the optimal non-allying tax if and only if the following three constraints are satisfied: i) $\beta < \frac{2}{3}$, ii) $Z < \tilde{Z}$, and iii) $\lambda < \lambda^l$. Therefore, we can derive proposition 4.2.

[Appendix II:]

1) *Prove Proposition 1.2*

Proof: When $\lambda_2 \leqslant \lambda^h$, we have $\hat{T}_2 \geqslant 0$, thus the optimal allying tax policy is given by:

$$(T_1 = \tau, T_2 = 0),$$

given which,

$$C_R = \tau > 0, \quad (1.1^*)$$

When $\lambda_2 > \lambda^h$, we have $\hat{T}_2 < 0$, thus the optimal allying tax policy is given by:

$$(T_1 = \tau, T_2 = \hat{T}_2),$$

given which,

$$C_R = \frac{\tau - \lambda_2}{\beta}. \quad (1.2^*)$$

where $C_R \geqslant 0$ if and only if $\lambda_2 \leqslant \tau$. Hence, when $\lambda_2 > \hat{\lambda}$, the optimal allying tax policy $(T_1 = \tau, T_2 = \frac{(1-\beta)\tau - \lambda_2}{\beta})$ is sustainable if and only if $\lambda_2 \leqslant \tau$.

Similar to the analysis in the Subsection 2.2.1, we can infer the optimal non-allying tax policy for the ruler is given by:

$$(T_1 = min\{\tau, \hat{T}_1\}, T_2 = min\{\tau, \hat{T}_2\})$$

It is clear that when $\hat{T}_1 \geqslant 0$ and $\hat{T}_2 > 0$ if and only if:

$$\lambda_1 \leqslant \lambda^h, \quad (1.3^*)$$

which implies that the optimal non-allying tax policy is sustainable if and only if $\lambda_1 \leqslant \lambda^h$. It is easy to show $\hat{T}_1 \leqslant \tau$ if and only if: ??

$$\beta \geqslant \frac{\tau - \lambda_1}{2\tau} \equiv \beta^l, \quad (1.4^*)$$

and $\hat{T}_2 \leqslant \tau$ if and only if:

$$\beta \geqslant \frac{\tau - \lambda_2}{2\tau} \equiv \beta^h, \quad (1.5^*)$$

Given $\lambda_2 < \lambda_1 < \lambda^h$, we have: $\frac{1}{2} > \beta^h > \beta^l > 0$. Therefore, when $\lambda_1 \leqslant \lambda^h$,

i) if $\beta \geqslant \beta^h$, we have: $\hat{T}_2 \leqslant \tau$ and $\hat{T}_1 < \tau$, thus the optimal non-allying tax policy is given by:

$$(T_1 = \hat{T}_1, T_2 = \hat{T}_2),$$

given which:

$$C_R = \frac{2(1-\beta)\tau - (\lambda_1 + \lambda_2)}{\beta}; \quad (1.6^*)$$

ii) if $\beta^l \leqslant \beta < \beta^h$, we have: $\hat{T}_1 \leqslant \tau$ and $\hat{T}_2 > \tau$, thus the optimal non-allying tax policy is given by:

$$(T_1 = \hat{T}_1, T_2 = \tau),$$

given which:

$$C_R = \frac{1 - \lambda_1}{\beta}; \quad (1.7^*)$$

iii) if $\beta < \beta^l$, we have: $\hat{T}_1 > \tau$ and $\hat{T}_2 > \tau$, thus the optimal non-allying tax policy is given by:

$$(T_1 = \tau, T_2 = \tau),$$

given which:

$$C_R = 2\tau. \quad (1.8^*)$$

Based on the above analysis, we can infer that when $\lambda_2 > \tau$, it is impossible for the ruler to sustain the regime by any tax policy. When $\lambda_2 \leqslant \tau$ and $\lambda_1 \geqslant \lambda^h$, no non-allying tax policy is not sustainable, thus the ruler has no choice but implementing the optimal allying tax policy: i) if $\lambda^h < \lambda_2 \leqslant \tau$, the optimal allying tax policy is $(T_1 = \tau, T_2 = \hat{T}_2)$; ii) while if $\lambda_2 \leqslant \lambda^h$, it is $(T_1 = \tau, T_2 = 0)$.

When $\lambda_1 \leqslant \lambda^h$, we must have $\lambda_2 < \lambda^h$, thus the sustainable optimal allying tax policy is given by: $(T_1 = \tau, T_2 = 0)$. When $\lambda_1 < \lambda^h$ and $\beta < \beta^l$, both the optimal allying tax policy and the optimal non-allying tax policy are sustainable, but the latter brings higher payoff for the ruler, hence, the ruler will opt for the latter.

When $\lambda_1 < \lambda^h$ and $\beta^l \leqslant \beta < \beta^h$, we can derive: $(1.7^*) > (1.1^*)$, thus the ruler will opt for the non-allying tax policy: $(T_1 = \hat{T}_1, T_2 = \tau)$. When $\lambda_1 < \lambda^h$ and $\beta \geqslant \beta^h$, it is easy to show: $(1.1^*) \geqslant (1.6^*)$ if and only if:

$$\lambda_1 + \lambda_2 \geqslant \tau(2 - 3\beta) > 0. \quad (1.9^*)$$

Based on the above analysis, we can derive Proposition 1.2.

2) *Prove Proposition 1.3*

Proof: It is clear that the optimal allying tax policy is given by one of the tax policies in the following policy vector:

$$\{(T_1 = \tau_1, T_2 = min\{0, \frac{(1-\beta)\tau_1 - \lambda}{\beta}\}), (T_1 = min\{0, \frac{(1-\beta)\tau_2 - \lambda}{\beta}\}, T_2 = \tau_2)\}$$

where $\frac{(1-\beta)\tau_2 - \lambda}{\beta} \geqslant 0$ if and only if:

$$\lambda \leqslant (1-\beta)\tau_2 \equiv \hat{\lambda}^m, \quad (1.10^*)$$

and $\frac{(1-\beta)\tau_1 - \lambda}{\beta} \geqslant 0$ if and only if:

$$\lambda \leqslant (1-\beta)\tau_1 \equiv \hat{\lambda}^h. \quad (1.11^*)$$

Given $\tau_1 > \tau_2$, we have $\hat{\lambda}^h > \hat{\lambda}^m$. It is easy to show:

i) when $\lambda > \tau_1$, neither of the above two allying tax policies are sustainable;

ii) when $\hat{\lambda}^h < \lambda \leqslant \tau_1$, the optimal allying tax policy is given by:

$$(T_1 = \tau_1, T_2 = \frac{(1-\beta)\tau_1 - \lambda}{\beta}),$$

given which: $C_R = \frac{\tau_1 - \lambda}{\beta}$;

iii) when $\lambda \leqslant \hat{\lambda}^h$, the optimal allying tax policy is given by:

$$(T_1 = \tau_1, T_2 = 0),$$

given which: $C_R = \tau_1$;

Similar to the analysis in Subsection 2.1.1, we can infer that the optimal non-allying tax policy for the ruler is given by:

$$(T_1 = min\{\tau_1, \frac{(1-\beta)\tau_2 - \lambda}{\beta}\}, T_2 = min\{\tau_2, \frac{(1-\beta)\tau_1 - \lambda}{\beta}\}),$$

which is sustainable if and only if:

$$\lambda < \hat{\lambda}^m. \quad (1.12^*)$$

It is clear that:

$$\frac{\partial \hat{\lambda}^m}{\partial \tau_2} = 1 - \beta,$$

which shows that $\hat{\lambda}^m$ is monotonically increasing on τ_2. This implies that when the ruler has less control over the endowment of the citizen with lower maximum tax, it will become more difficult for him to implement the non-allying tax policy. Given $\beta \geqslant \frac{1}{2}$, we have: $\frac{(1-\beta)\tau_2 - \lambda}{\beta} < \tau_1$. While $\frac{(1-\beta)\tau_1 - \lambda}{\beta} > \tau_2$ if and only if:

$$\lambda < (1-\beta)\tau_1 - \beta\tau_2 \equiv \hat{\lambda}^l, \quad (1.13^*)$$

where $\hat{\lambda}^l > 0$ if and only if:

$$\tau_1 > \frac{\beta\tau_2}{1-\beta}. \equiv \hat{\tau}_1. \quad (1.14^*)$$

Based on the above analysis, it is easy to show when $\tau_1 \leqslant \hat{\tau}_1$, or $\tau_1 > \hat{\tau}_1$ and $\lambda \geqslant \hat{\lambda}^l$, the optimal non-allying tax policy for the ruler is given by:

$$(T_1 = \frac{(1-\beta)\tau_2 - \lambda}{\beta}, T_2 = \frac{(1-\beta)\tau_1 - \lambda}{\beta}),$$

given which $C_R = \frac{(1-\beta)(\tau_1+\tau_2)-2\lambda}{\beta}$; It is clear $\tau_1 \geqslant \frac{(1-\beta)(\tau_1+\tau_2)-2\lambda}{\beta}$ if and only if:

$$\tau_2 \leqslant \frac{(2\beta-1)\tau_1 + \lambda}{1-\beta} \equiv \hat{\tau}_2 \quad (1.15^*),$$

Given $\beta \geqslant \frac{1}{2}$, we must have $\hat{\tau}_2 > 0$. Therefore, when: i) $\tau_1 \leqslant \hat{\tau}_1$, or ii) $\tau_1 > \hat{\tau}_1$ and $\lambda \geqslant \hat{\lambda}^l$, if $\tau_2 \leqslant \hat{\tau}_2$, it is a weakly dominant strategy for the ruler to adopt the optimal allying tax policy $\{T_1 = \tau_1, T_2 = 0\}$; while if $\tau_2 > \hat{\tau}_2$, it is a strict dominant strategy for the ruler to adopt the optimal non-allying tax policy.

When $\tau_1 > \hat{\tau}_1$ and $\lambda < \hat{\lambda}^l$, the optimal non-allying tax policy is given by:

$$(T_1 = \frac{(1-\beta)\tau_2 - \lambda}{\beta}, T_2 = \tau_2),$$

given which $C_R = \frac{\tau_2 - \lambda}{\beta}$; It is obvious that $\tau_1 \geqslant \frac{\tau_2 - \lambda}{\beta}$ if and only if:

$$\tau_2 \leqslant \frac{\lambda}{1-\beta} \equiv \tilde{\tau}_2 > 0 \quad (1.16^*).$$

Based on the above analysis, we can derive Proposition 1.3.

3) Prove: When $\lambda \geqslant \lambda^B$, we have $(2.23) > (2.7)$, i.e., $-2(\tau - \frac{2\lambda}{1-\beta}) > -\frac{\tau - 2\lambda}{\beta}$.

Proof : It is easy to show $-2(\tau - \frac{2\lambda}{1-\beta}) > -\frac{\tau-2\lambda}{\beta}$ if and only if $\lambda > (\frac{2\beta-1}{3\beta-1})[\frac{(1-\beta)\tau}{2}]$. Given $\beta > \frac{1}{2}$, we have: $3\beta - 1 > \beta$, thus $(\frac{2\beta-1}{3\beta-1})[\frac{(1-\beta)\tau}{2}] < \lambda^B$. Therefore, when $\lambda \geqslant \lambda^B$, we have $(2.23) > (2.7)$.

4) Note: 1 represents the most free and 7 the least free rating.

Table 1: Freedom Index of Worst of the Worst 2011

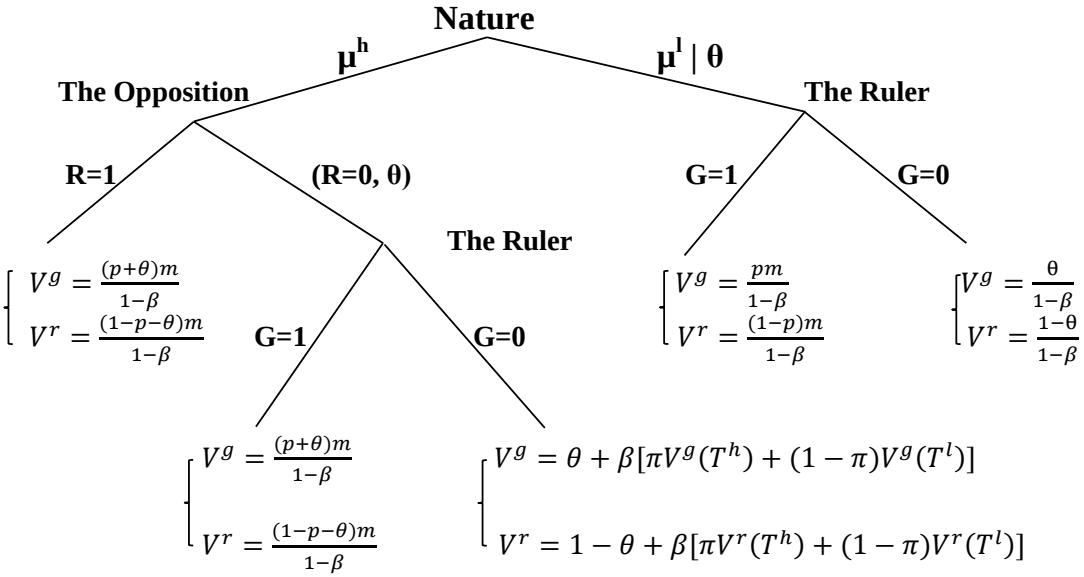
Country	Political Rights	Civil liberty	Combined Average
Belarus	7	6	6.5
Burma	7	7	7
Chad	7	6	6.5
China	7	6	6.5
Côte d'Ivoire	7	6	6.5
Cuba	7	6	6.5
Equatorial Guinea	7	7	7
Eritrea	7	7	7
Laos	7	6	6.5
Libya	7	7	7
North Korea	7	7	7
Saudi Arabia	7	6	6.5
Somalia	7	7	7
Sudan	7	7	7
Syria	7	6	6.5
Turkmenistan	7	7	7
Uzbekistan	7	7	7

(Source: Freedom House.)

[Appendix III:]

1)

Graph 1: Game Tree of Military Interventions



(Note: $m = (1-\beta)\zeta + \beta$; $Prob(\mu^h) = \pi$)

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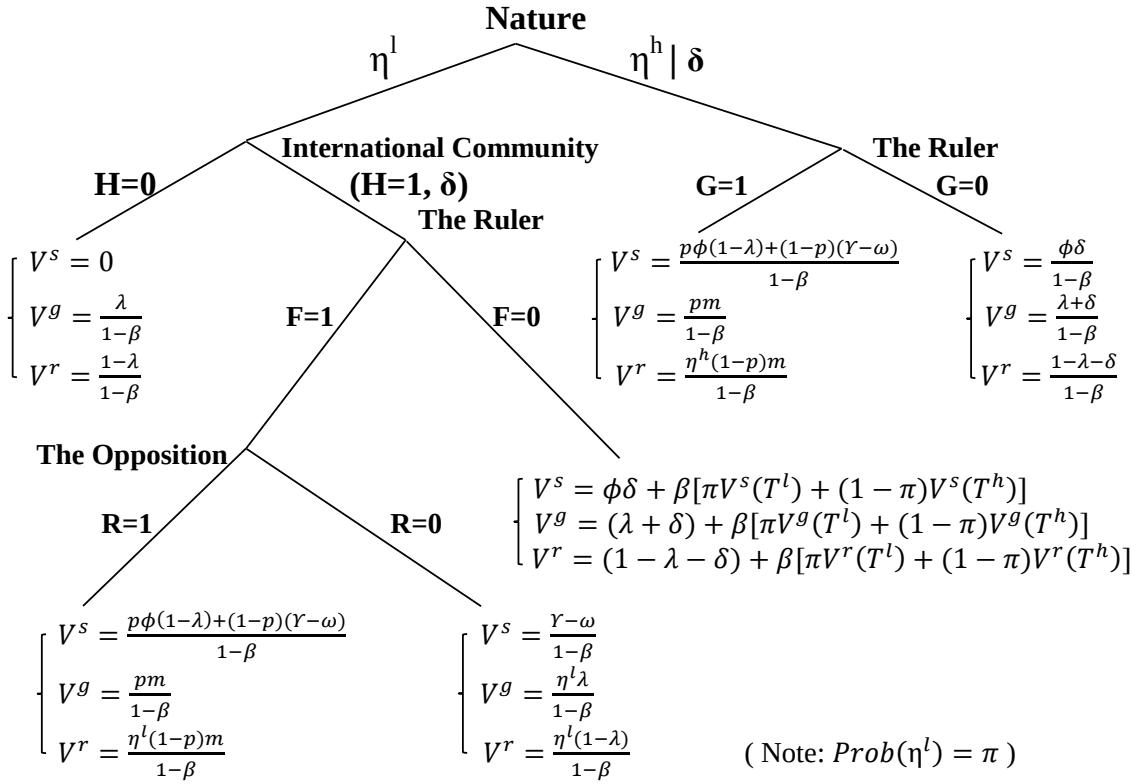
2)

Graph 2: Game Tree of Economic Sanctions



(Note: $Prob(\eta^l) = \pi$)

3) *Prove:* $(1.22) \geqslant (1.3)$ *i.e.,* $\frac{(1-\beta)-m[(1-p)(1-\beta)-\phi(1-\beta\pi)]+\beta(1-\pi)pm}{(1-\beta\pi)(1-\beta)} \geqslant \frac{(p+\phi)m}{1-\beta}$

Proof: Let $\frac{(1-\beta)-m[(1-p)(1-\beta)-\phi(1-\beta\pi)]+\beta(1-\pi)pm}{(1-\beta\pi)(1-\beta)} \geqslant \frac{(p+\phi)m}{1-\beta}$, we have:

$$(1-\beta)-m(1-p)(1-\beta)-m\phi-m(p+\phi)+\beta pm \geqslant \beta\pi[m\phi+pm-pm-m\phi]$$

$$(1-m)(1-\beta) \geqslant 0$$

It is clear that given $m, \beta < 1$, the above inequality always holds. Therefore, we have $(14) \geqslant W_g^h$.

4) *Prove: when* $\omega > \hat{\omega}$ *and* $\hat{\Upsilon} > \tilde{\Upsilon} > \Upsilon$, $V_s^l(\theta = \hat{\theta}) \geqslant V_s^l(\theta = \tilde{\theta}) > V_s^l(\theta > \hat{\theta})$ *if and only if* $\pi > \hat{\pi}$.

Proof: When $\omega > \hat{\omega}$ and $\hat{\Upsilon} > \tilde{\Upsilon} > \Upsilon$, we have: $\Delta_1 < 0$ and $\Delta_2 < 0$. We can show:

$$\Delta_2 - \Delta_1$$

$$= \frac{1-p}{(1-\beta)(1-\beta\pi)}\{\phi m[\eta^h(1-\beta\pi)-\eta^l(1-\beta)]-\beta(1-\pi)[\omega+\phi(1-\lambda)-\Upsilon]\}$$

It is clear that $\Delta_2 > \Delta_1$ if and only if:

$$\pi > 1 - \frac{\phi m[\eta^h(1-\beta\pi)-\eta^l(1-\beta)]}{\beta[\omega+\phi(1-\lambda)-\Upsilon]} \equiv \hat{\pi}$$

Therefore, when $\Delta_1 < \Delta_2 < 0$, we have: $V_s^l(\theta = \hat{\theta}) \geqslant V_s^l(\theta = \tilde{\theta}) > V_s^l(\theta > \hat{\theta})$.

5) *Prove:* $0 < \hat{\pi} < 1$, *where* $\hat{\pi} = 1 - \frac{\phi m[\eta^h(1-\beta\pi)-\eta^l(1-\beta)]}{\beta[\omega+\phi(1-\lambda)-\Upsilon]}$.

Proof: Since $\eta^h > \eta^l$ and $(1-\beta\pi) > (1-\beta)$, we have: $\eta^h(1-\beta\pi) > \eta^l(1-\beta)$. Given $\Upsilon < \tilde{\Upsilon} = \omega + \phi[1-\lambda-\eta^h m]$, we can derive that $\omega + \phi(1-\lambda) - \Upsilon > \phi\eta^h m > 0$. Hence, it is obvious that:

$$\frac{\phi m[\eta^h(1-\beta\pi) - \eta^l(1-\beta)]}{\beta[\omega + \phi(1-\lambda) - \Upsilon]} > 0.$$

Therefore, $\hat{\pi} < 1$. It is clear to prove $\hat{\pi} > 0$ is equivalent to prove that:

$$\phi m[\eta^h(1-\beta\pi) - \eta^l(1-\beta)] < \beta[\omega + \phi(1-\lambda) - \Upsilon]$$

Since $\Upsilon < \tilde{\Upsilon} = \omega + \phi[1-\lambda-\eta^h m]$, we can derive:

$$\beta[\omega + \phi(1-\lambda) - \Upsilon] > \phi m\beta\eta^h$$

Since $\eta^h > \eta^l$, we can derive:

$$\phi m[\eta^h(1-\beta\pi) - \eta^l(1-\beta)] < \phi m[\eta^h(1-\beta\pi) - \eta^h(1-\beta)] = \phi m\beta\eta^h(1-\pi)$$

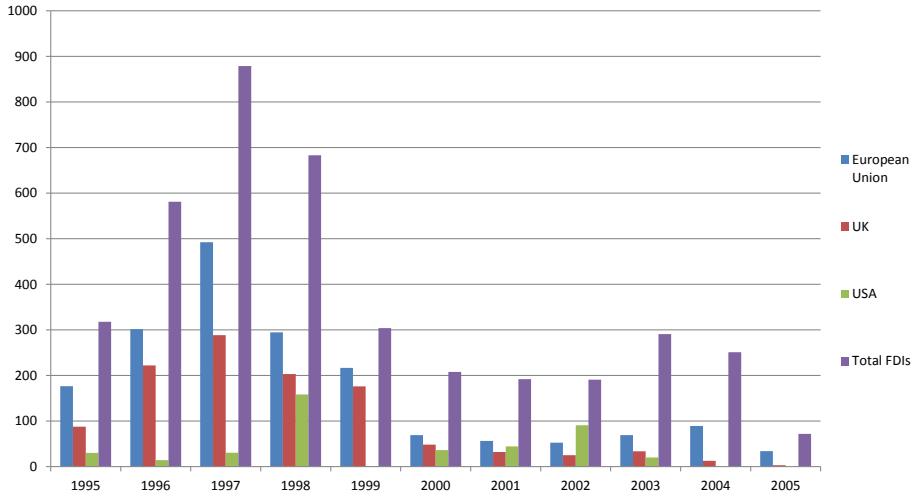
Given $\pi > 0$, we have:

$$\phi m\beta\eta^h(1-\pi) < \phi m\beta\eta^h$$

Hence, we can infer that $\phi m[\eta^h(1-\beta\pi) - \eta^l(1-\beta)] < \beta[\omega + \phi(1-\lambda) - \Upsilon]$, Therefore, $\hat{\pi} > 0$.

6)

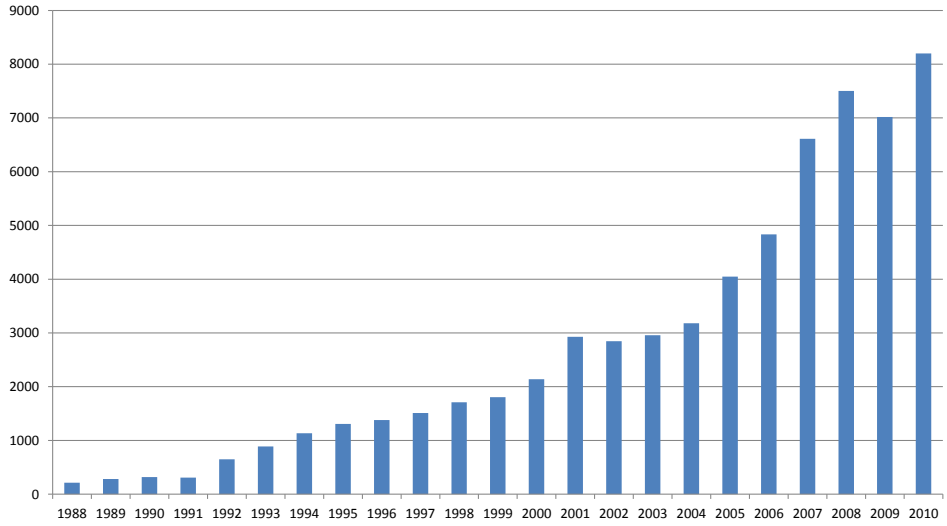
Figure 1: FDIs in Burma: 1995-2005 (UD$ Million)



Source: IMF

7)

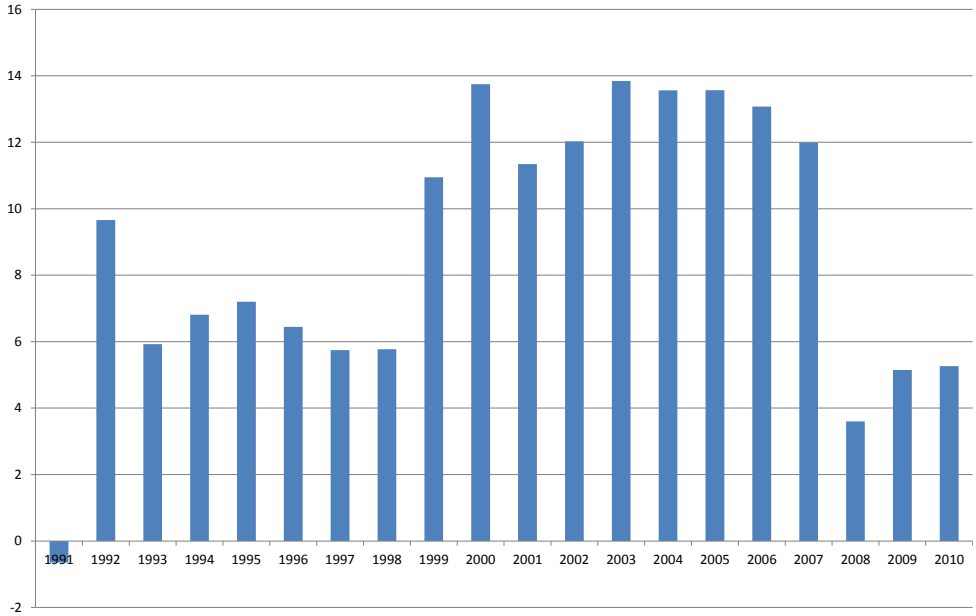
Figure 2: Exports of Goods and Services (US$ Million)



Source: IMF

8)

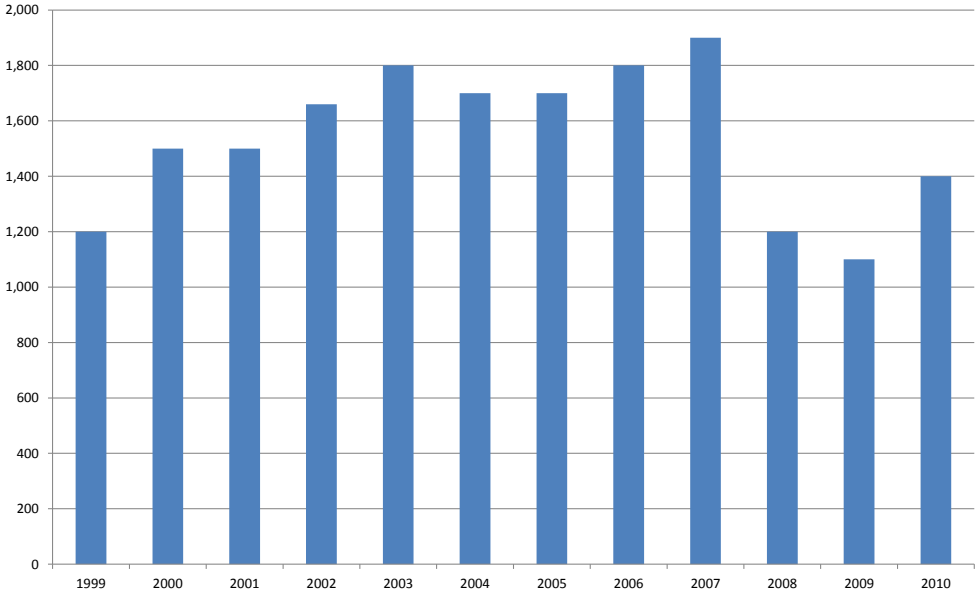
Figure 3: GDP Growth in Burma 1991-2010 (%)



Source: CIA World Factbook

9)

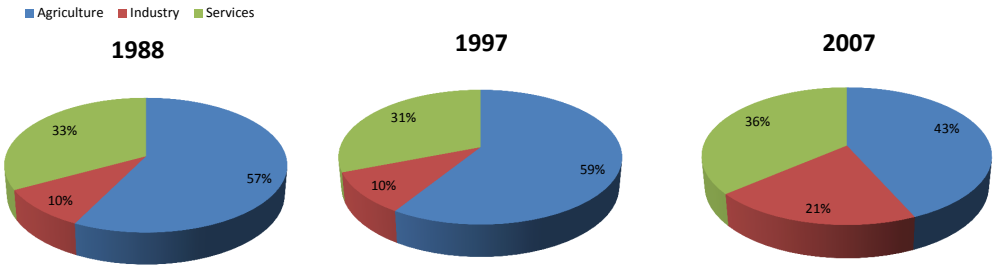
Figure 4: GDP per Capita of Burma 1999-2010 (PPP US$)



Source: CIA World Factbook

10)

Figure 5: Burma's GDP Composition by Sectors



Source: IMF